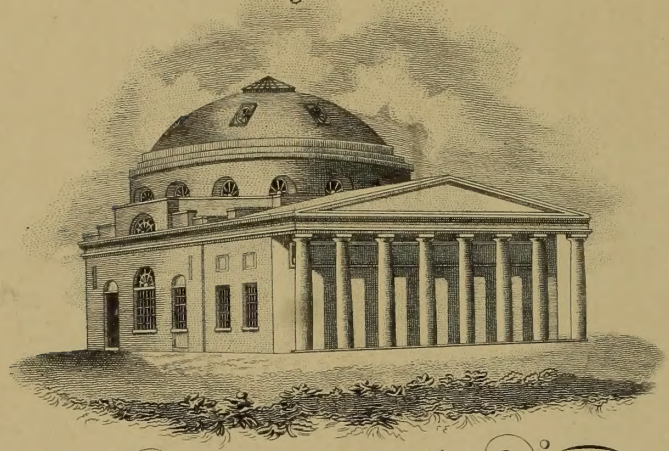
SEP 25 1940

LIBRARY
OF THE
School of Medicine



University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

These dissertations were digitized in 2011-2012 and are available at the UM Digital Archive (archive.hshsl.umaryland.edu) and the Internet Archive (www.archive.org).

(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1848 (c)

| Author | Title | Notes |
|---|---|---|
| Plaster, G.E. | Tetanus | |
| Pindell, William Nicholas | Relative Merits of Lithotomy and Lithotrity | |
| Spence, Ara | Acute Gastritis | |
| Barrett, W.E. | Acute Inflammatory Croup | |
| Keenan, Joseph A. | Puerperal Fever | |
| McPherson Jr., William S. | Hydrargyrum, Its Use and Abuse | |
| Cabaniss, Thomas T. | Phthisis Pulmonalis | |
| Hurtt, Edward | General and Local Effects of Blood-Letting | |
| Krozer, John J. R. | Apoplexy | |
| Waugh, John W. | Respiration | |
| Stump, William Henry | Intermittent Fever | |
| Crane, William Bowers | Functions of the Sympathetic Nerves | |
| Cochran, William W. | Rheumatism | |
| Worthington, James | Acute Rheumatism | |
| Welsh, R.S. | Specific Effect of Ergot | |
| Clagett, Grafton A. | Pneumonia | |
| Eareckson, Roderick W. | Force of Habit | |

HSHSL 2011 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

| Author | Title | Notes |
|---|---|---|
| Prentiss, John Henry | Fractures of the Cervix Femoris | |
| Osburn, Abner | An Epidemic, Which Prevailed in Virginia in 1846-7, of Typhoid Fever | |
| Richardson, Samuel S. | Dysentery | |
| Russell, Charles | Typhoid or Enteric Fever | |
| Moore, Gledstanes Aylmer | Pneumonia | |
| Gunter, Enos F. | Acute Pneumonia | Title page[1] |
| Edelin, Edward V. | Menstruation | |
| Sappington, Sidney | Indigestion | |
| Johnson, James Thomas | Rheumatic Endocarditis and Pericarditis | |
| Gunter, Enos F. | Acute Pneumonia | Content[2] |

[1] Title page only. Content found at end of volume.
[2] Title page earlier in this volume

HSHSL 2011 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1848 (c)

| | | |
|---|---|---|
| Plaster, G. E. | Tetanus | 24p. |
| Pindell, ~~Wm. N.~~ William Nicholas | Relative Merits of Lithotomy and Lithotrity | 44p. |
| ~~Ava, Spence~~ Spence, Ara | Acute Gastritis | 26p. |
| Barrett, W. E. | Acute Inflammatory Croup | 17p. |
| ~~Heenan~~ Keenan, Joseph A. | Puerperal Fever | 11p. |
| McPherson, ~~Wm.~~ William S. Jr. | Hydrargyrum, Its Use and Abuse | 22p. |
| ~~Cabanya~~ Cabaniss, Thomas ~~F.~~ T. | Phthisis Pulmonalis | 35p. |
| Hurtt, Edward | General and Local Effects of Blood-Letting | 17p. |
| Krozer, John ~~I.~~ J. R. | Apoplexy | 16p. |
| ~~Waryl~~ Waugh, John W. | Respiration | 11p. |
| Stump, ~~Wm. H.~~ William Henry | Intermittent Fever | 15p. |
| Crane, ~~Wm. B.~~ William Bowers | Functions of the Sympathetic Nerves | 25p. |
| Cochran, ~~Wm.~~ William W. | Rheumatism | 38p. |
| Worthington, James | Acute Rheumatism | 14p. |
| Welsh, R. S. | Specific Effect of Ergot | 16p. |
| Clagett, Grafton A. | Pneumonia | 21p. |
| Earec~~h~~k~~i~~son, Roderick W. | Force of Habit | 26p. |
| Prentiss, John Henry | Fractures of the Cervix Femoris | 23p. |
| Osburn, ~~Abrier~~ Abner | ~~Typhoid Fever~~ An Epidemic, Which Prevailed in Virginia in 1846-7, of Typhoid Fever | 21p. |
| Richardson, ~~S.~~ Samuel S. | Dysentery | 17p. |
| Russell, Charles | Typhoid or Enteric Fever | 25p. |

528
R138

Gledstanes Aylmer

| | | |
|---|---|---|
| Moore, ~~Gladstones~~ ~~Ayemer~~ | Pneumonia | 16p. |
| ☆ Gunter, Enos. F. | Acute Pneumonia | 19p. |
| Sappington, Sidney | Indigestion | 15p. |
| Johnson, ~~J.~~ James Thomas | Rheumatic Endocarditis and Pericarditis | 33p. |
| Anonymous | Acute Pneumonia | 10p. |

☆ title page only - no dissertation text

Edelin, Edward V. Menstruation 19p.

An

Inaugural Dissertation

on

Tetanus

Respectfully Submitted

to the

Examination

of the

Provost, Regents, & Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

G. E. Plasters

of

Virginia

1848

WMD
18886

UNIVERSITY OF MARYLAND
LIBRARY
SCHOOL OF MEDICINE

# Preface

In presenting to the faculty the following thesis, the writer, in view of its incompleteness, feels it a duty he owes himself, to say that its preperation has been under circumstances such as not only to preclude the possability of it being an approximation to a complete treatise on the subject selected, but even to prevent the necessary time and attention being devoted to it, to render it a respectable apology

It will be found to contain nothing novel or original for two obvious reasons; first the writer ~~having~~ haveing had no means of observation on the subject, can therefore have no new facts to record; and secondly were he so disposed it would only be adding confusion to obscurity to attempt to speculate on a subject the few ascertained facts concerning which are already so wrapped up in the labarynths

of dreamy theory, as scarcely to be distinguishable. He has endeavoured therefore merely to give a condensed and brief compilation of what he has gleaned from various sources in relation to <u>tetanus</u>. If it be found to meet the requisitions of the institution the object for which it was written will have been accomplished and the highest ambition of the writer, in regard to authorship, fully gratified

# Tetanus

Tetanus is a disease, characterized by a rigid, painful and continued contraction of the voluntary muscles alternating with more violent and painful spasm without any considerable interference with the faculties of the mind.

It has been divided by nosologists into several varieties accordingly as different sets of muscles were the principle seat of the disease. When those of the face, throat and jaws, are chiefly affected it is called trismus or locked jaw; when there is a recurvation of the body by the forcible contraction of the extensors of the spine, it is called opisthotonos, emprosthotonos is the term used to designate that variety in which the body is curved forward and pleurosthotonos is applied to the lateral incurvation.

It has also been divided into acute and chronic, local and general.

periodic and continued. But these seem to effect no other purpose than to perplex and confuse the mind of the student. Indeed there is no practical importance attached to any of the distinctions named above, the disease being essentially the same, and requiring the same Kind of treatment

There is however a distinction named in reference to the etiology of the disease, which is of much more importance, both in regard to its prognosis and treatment; viz that of idiopathic and traumatic the former being applied to those cases which arise spontaneously or depend on the operation of general causes, the latter to those supervening on physical injuries. There is also another variety of tetanus spoken of by writers under the name of Trismus nascentium. Said to be very common among the negro population of the West Indies

and certain portions of our southern states
It is peculiar to early infancy never
occuring later than the second week
after birth and is almost universally
fatal. It is generally ascribed to
irritation arrising from the division
of the cord or retention of the
meconium. It depends chiefly no doubt
on a constitutional predisposition arising
from the hot and foul air and filth
in the midst of which the children
are born

Symptoms & Course— The prodromic symptoms
of tetanus, are slight uneasiness about
the throat and larynx, a feeling of
stiffness of the jaws, a difficulty in
rotating the head, and some degree of
precordial uneasiness. In the traumatic
variety x there is frequently spasm of the
wounded limb, deep seated pain in
the part extending toward the spine,
horripulations &c &c. Though these
are not constant and deserve but
little attention

As the disease progresses the ordinary motions of the neck become more and more embarassed, the pain in the epigastrium goes on to increase in intensity attended with a dragging or rending sensation, untill it amounts to the most agonizing torture, and frequently constitutes the major part of the patients suffering. The rigidity of the muscles of the jaws continues to advance. untill finally they are firmly and permanently closed beyond the power of the patient to reopen. This generally takes place gradually as described but rarely suddenly with a snap. Next the muscles of the face, trunk, abdomen and larger muscles of the extremities become involved, and lastly those of the tongue, hands and fingers which are frequently perfectly subservient to the will of the patient when every other voluntary muscle in the system is as rigid as a board, and it sometimes occurs that this control

over the fingers. Singular as it may appear, is not lost during the whole course of the disease

With this condition of things the tetanic seizure is completely developed and the muscles now contracted, as a general rule or not again completely relaxed untill the disease subsides or the spasm is stilled in death.

In addition to this they are all subject to paroxysms of a more violent form recurring at intervals of from five to thirty minutes, in proportion to the violence of the attack, lasting some two or three and then again falling back into the lesser degree of contraction in which they were ~~compl~~ previous to the exacerbation

These paroxysms occur frequently or without any apparent cause, yet the slightest attempt at deglutition, or a current of air blowing on the body of the patient, is often quite sufficient to induce their return

The slightest degree of tetanic spasm is attended with more or less pain, but during a paroxysm the pain is increased to the most intense agony

There would however seem to be an occasional though extremely rare exception to this ~~general~~ almost universal rule. Dr Watson notices one instance of this character as described by Sir Gilbert Blane which ran the usual course and terminated fatally in which 'tis said, the patient so far from experiencing any pain described his sensations as being rather of a pleasurable character than otherwise

During the paroxysm the countenance of the patient wears an appearance at once the most hideous and alarming. The forehead is corrugated and brows Knit, the nostrils expanded and drawn up the eyes fixed and staring and the angles of the mouth forcebly retracted. the features thus being made to assume that peculiar 'terrific and ghastly grin denominated 'risus

sardonicus". So vident are the spasms that that the teeth are said to have been broken dislocations effected, the larger long bones fractured, and even the muscles themselves ruptured.

Notwithstanding this extraordinary condition of the muscular system the functions of other organs of the economy are comparatively little disturbed. There is indeed generally obstinate costiveness and retention of urine but these conditions are thought to depend not so much on any interference with the peculiar functions of the essential organs concerned as upon the contraction of their respective outlets by the spasmodic contraction of the sphincter muscles, thus opposing a mechanical barrier to the passage of their contents. During a paroxysm the frequency of the heart's action is increased and the respiration hurried, a profuse perspiration also frequently bursts forth from the surface of the skin but subsides again with the subsidence of the paroxysm.

The muscles of respiration sometimes become involved and from the inability of the patient to expand his chest suffocation and death ensue. Another fatal accident is spasm of the glottis which produces the most terrible, agonizing and sudden death.

It has already been observed that during the paroxysm the circulation is a little hurried, and this in the earlier stages of ordinary tetanus constitutes the whole disorder of this function. But it is a well known physiological fact that violent muscular action is accompanied by a proportionally increased consumption of nutritive matter and since the heart is the great agent through which the supply is furnished, it is evident that this augmented demand and the consequent increase of the hearts action together with defective nutrition will be followed by great excitability of this organ

known by a frequent irregular and feeble pulse, and ultimately exaustion of its power and death.

The pulse has been known to reach towards the close of the disease as many as one hundred and eighty beats in a minute

The mind of the patient is generally remarkably clear. coma. delirium or any intelectual disturbance being of rare occurrence untill immediately preceding dissolution, when as is the case with most other fatal diseases the functions of the brain also become impaired

Owing to the constant pain which the patient suffers he is generally sleepless and when during a brief and partial suspension of the the exausted system sinks into repose it is only to be quickly arroused to renewed suffering, by the recurence of one of those dread paroxysms

Tetanus has no absolute period of duration. The traumatic variety is much more rapid in its progress than the idiopathic and may prove fatal in less than a day though death most usually takes place between the end of the first and seventh. However some fatal cases have survived as late as the tenth, sixteenth, twentieth or even thirtieth day, but generally if the patient survive the ninth day he will recover.

Recovery is usually protracted and very gradual. The paroxysms occur less frequently and abate in violence and the muscles by degrees are brought under the control of the will. The period occupied in convalescence is from one week to two or three months

Morbid Lesions & Pathology. Under the existing state of Medical Science the precise pathological condition of the organism necessary to the development of the peculiar phenomena of tetanus

remains unascertained. The Scalpel indeed has not failed to demonstrate many lesions some trifling some more grave as coexisting with the disease but owing to their inconstancy and want of similarity they afford but little evidence in regard to its pathology

The lesions found in subjects dead of tetanus are congested state of the vessels of the cerebral and spinal meninges and roots of spinal nerves, serous and sanguineous effusions into the cavities of the brain and spinal marrow thickening of the ~~spinal~~ membranes and softening of the medulla and brain. Subercular and other concretions have also been discovered in these organs

But the abnormal condition perhaps most frequently met with is the existence of numerous little scales of ossific matter deposited in the arachnoid membrane. And on the presence of these the disease has been thought to depend but since they are often found

where there has been no tetanus and tet-
anus has often been known to occur and
prove fatal where no trace of them could
be found after death, it is evident their
existence is not indispensable to tetanus
and that they may and do exist without
producing this disorder Though it is more
than probable that they are under certain
circumstances capable of its production

It may be said in relation to the other
conditions spoken of that they certainly
afford the most unequivocal evidence of
inflamation of the great nervous centres
and were this condition of things univers-
ally found to exist as might with some
of the french writers ascribe the production
of the disease to this inflamation
But unfortunately for this dogma in
a large majority of cases no possable
trace of inflamation, or any other
lesion, can be detected

Since then there is no constant structu
-ral disturbance capable of giveing rise
to them

to the characteristic phenomina of tetanus the only resource left in relation to its nature; is to follow Watson and other modern writers in refering it to irritation of the system of nerves concerned in voluntary motion

And without pausing to enumerate all the argument and experiments that have been adduced to establish it pass on to another part of the subject

Causes- The causes of tetanus may like those of most other diseases be divided into predisposing and immediate or exciting causes. Indeed it would seem that a predisposition is necessary to its production, as comparitively few who are exposed to its acknowledged exciting causes are attacked

The predisposing causes are hot climates and seasons, a want of attention to cleanliness and the condition of the bowels, unwholsome diet, indeed any thing which debilitates the powers of the

constitution or derangs the general health

Sex also exerts some influence of this Kind, as males are much more frequently and violently affected than females

Age too is another circumstance with deserves to be noticed in this connection persons being most frequently attacked between the ages of ~~thirty~~ ten and fifty it being very rare in advanced ~~life~~ though no peri'd is exempt from it.

As had been before stated early infancy in certain regions is peculiarly liable to it. "It is a well ascertained fact sais Dr Wood that the negro is more disposed to tetanus apparently under the same circumstances than the white"

The principle exciting causes are the application of cold, and physical injuries And to the last of these by far the greater number of cases owe their origin

Concerning the character, condition, location &c of wounds in which tetanus most frequently supervenes much has been said by different writers

But the history of this variety of disease presents nothing uniform in this respect, on the contrary it is known to follow injuries of every possible extent, character and stage, from the merest scratch to wounds the most grave, whether simple or complicated, sloughing or suppurating, healthy or otherwise. It is however most undoubtedly oftener found to follow punctured or lacerated wounds of the hands and feet, than those of any other character or in any other situation.

The common period after the infliction of the wound for the supervention of the attack is during the second week, though it may take place any time between the first and thirtieth day, it is however very rare after the fifteenth. And if it do come on later than this it will generally be mild

Diagnosis— In regard to the diagnosis of tetanus there are few diseases with which there is the least chance of its being confounded. These are Hysteria, Hydrophobia and Rheumatism

In hysteria we often have many of the most remarkable symptoms of tetanus. such as opisthotonos, emprosthotonos &c &c But the fickle, wayward character of this disease the silly laughing and weeping and the frequent intervals of apparent health will allways insure its easy recognition

Tetanus may be distinguished from hydrophobia by the absence of that terror morbid impressibility and excitement of the mind so characteristic of this fatal disease. For whereas there is generally a certain kind of mania and garrulous phrenzy commingled in this disease, in tetanus the mind is entirely unimpaired and the temper of the patient preserves through its whole course a remarkable degree of equanimity

Again the character of the spasm is essentialy different being in tetanus of a tonic, in hydrophobia of a clonic nature

Another characteristic difference between these two diseases is the absence in

tetanus of that abundant secretion of tough ropy mucus, seen clinging about the mouth and fauces of a hydrophobic patient, and the absence of thirst, which is always present in hydrophobia.

The symptoms by which tetanus may be distinguished from rheumatism are the non occurrence of spasm in the latter disease and the want of motion depending not so much on a want of power over the muscles as upon disinclination arising from the intolerable pain produced by any movement and by the joints, rather than the bellies of the muscles being most generally affected. In truth there is so little similarity between the two affections that there is little ground on which to found an error.

But there may be a morbid condition of the system induced by the too frequent exhibition of strychnia so exactly resembling genuine tetanus as to baffle the diagnosing acumen

of the most discriminating. In truth the symptoms attending a case of poisoning by this drug are the "bona fide" symptoms of tetanus, and may be considered, a variety of the disease. The whole difference consisting in the circumstances of causation

Prognosis— The prognosis of this disease though grave, and in a majority of cases fatal, is in no instance absolutely so By this is meant, that recovery sometimes takes place, from every variety and grade. The traumatic variety is regarded as most fatal and the sooner the attack supervenes in the injury and the more frequent and violent the spasms, the more the prospect for recovery

The circumstances auguring most favourably are the idiopathic variety of the disease, original mildness of the symptoms, the near approach to complete relaxation between the spasmodic paroxysms, amenability to remedies, mild degree of embarassment of the respiration

uninterrupted condition of the circulation, the occurrence of sleep, and the continuance of the disorder beyond the eighth day

Treatment Regarding in the treatment of this disease, the views which have been adopted concerning its pathology the first indication to be answered is the removal as far as practical all sources of irritation

In pursuance of this object the condition of the wound if any exist should be ascertained and if inflamed or painful emolient and anodyne cataplasms should be applied. And if the the case be seen immediately after the supervention of spasm and while it is yet local and the situation of the wound will admit of it, by dividing the principle nerve which communicates with the wounded part and thus destroying the means by which the irritation is conveyed to the spinal marrow, the further progress

of the disease may often be prevented
This however to be available must be
practiced in the very commencement of
the attack as it can have no good
effect after its complete developement.

If there be much local or general
inflammation. with a plethoric habit
mild general bleeding may be practiced
Though much advantage cannot be
expected from this remedy, now should
it be carried to an extent sufficient
to reduce in any considerable degree the
strength of the patient

If the injury on which the attack
depends be inflicted directly on the
spinal marrow or we have any reason to
believe secondary inflammation has been
set up there, counterirritants should
be used along the course of the spine
The best agents for this purpose are
blisters, and the use of the caustic potash

The bowels should be freed from any
fecal accumulations which may exist
there, by the administration of some

active cathartic. For this purpose may be used Sulphate of Magnesia & senna, Calomel & jalap, compound extract of colocynth or any other agent of the kind which is known to be prompt and active. Castor oil will be found to be very convenient where there is much difficulty of deglutition

If there be any suspicion of the existence of worms in the alimentary canal some special anthelmintic should be exhibited, The agent best calculated for this purpose is turpentine combined with castor oil

After free purgation has been induced the bowels should be kept open by milder cathartics.

The agents which have been most employed for the purpose of directly allaying the irritation and deadening the susceptibility of the nervous system to any irritating cause are the narcotics. And as the most effective of these Opium

This agent has perhaps been employed more than any other curative means in this disease. And with various opinions in regard to its efficacy

The best forms for administering it are tincture or one of the salts of morphia, in doses of from a half fluid drachm to a drachm of the former or a half grain to a grain of the latter every two hours, until some symptoms of narcotism are perceptable when some ameliorating of the tetanic symptoms will generally be experienced

Another remedy which has been highly reccommended for the same purpose is extract of <u>canabus indica</u> Which if administered in doses of from five to ten grains is said to be capable of ~~admin~~ effecting the system when opium has failed

Alcoholic stimulents have also been found useful by intoxicating the patient and thus blunting the impressibility of the system

To produce any good effect it must be administered in almost indefinate quantities, and continued until some degree of stupefaction is induced when its use should be suspended until these symptoms begin to disappear when if there remain any tetanic spasm it should be resumed

The opiate treatment is to be preferred where there is any spinal inflamation present

The inhalation of sulphuric ether is another means which has recently received considerable commendation for its beneficial influence in the treatment of this disease. And it certainly deserves much of the confidence which it has elicited. And ought perhaps to be regarded as the most effectual mode of treatment known

In the advanced stage of the disease when the strength of the system begins give way under the continued and

exausting influence of the muscular contractions It must be supported by the administration of tonics, and nutritious diet. The best tonic agent that can be employed under these circumstances is the subcarbonate of iron in very large doses. If the hearts action becomes very feeble ether and the sulphate of quina will be found most useful

An

Inaugural Dissertation

On

# The Relative Merits

of

# Lithotomy and Lithotrity

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic,

of the

University of Maryland

for the

Degree of Doctor of Medecine

By

Wm Nicks. Pindell

of

Maryland

1848

An
Inaugural Dissertation;
On
The Medical Profession
Of
Literature and Science
Submitted to the Examination
of the
Senate, Regents and Faculty of Physic,
of the
University of Maryland
for the
Degree of Doctor of Medicine
By
Wm. Wells Sinclair
of
Maryland
1848

To

John E. Gibbons M.D.

and

Nathan R. Smith M.D

Dear Doctors.

There are no persons whose names I can prefix, with so much pleasure and propriety to the succeeding pages, as those I have chosen. In testimony therefore to your private virtues, and public worth, the very high esteem in which you are held, and my grateful remembrance of the many kind admonitions received from my preceptor; and the many important instructions bestowed upon me, while attending Lectures in this University, and in the Baltimore Infirmary; by the later of these Gentlemen; and none of which can ever be repaid or forgotten

"Hinc omne principium huc refer exitum" - Hor.

To you this Inaugural is respectfully dedicated

by the Author,

To

John S. Pitkin M.D.

and

Norton B. Smith M.D.

Con Amore.

Where are we journey unless mans clear path
with the most pleasure and profit to the succeeding page, or three
of those chosen. In treating the topic in your journals written, one is put-
ting forth the very high esteem in which one holds, and very
grateful remembrance of the many kind admonitions received from
many preceptors and the many important instructions received upon
various collateral subjects in this University, and in the text
books employed; by the tutor of these departments, and none of which
can ever be repaid or forgotten

"Nine omnia pauperum mare relax ovitum" Thus.

So upon this occasion is reflected a dedication
by the
Author.

# Introduction

It is, we all know, a requisition made by all well regulated Medical Departments; that a Thesis should be written and handed in by each "Candidate for Examination" prior to the reception of his Diploma. This Thesis, agreeably to the requisition from the "Old University of Maryland", is now handed in for your inspection.

You, who read this Article will find it divided into four general heads. The first is Calculus, their Nature and Formation. The Second is The operation called Lithotrity. The Third that denominated Lithotomy; and, then, Lastly, The Merits of the two.

I will now submit this to your consideration, asking pardon for all faults, and mistakes committed: for, doubtless, I have

"Left unwritten those things, which I should have been written; And have written those things which should not have been written" by

The Author

# Calculi

## Their Nature And Formation

We have been told by our able Professor of Hygene, as to the composition of urine, That one of its constituents is a substance called Urea; besides this it contains an acid free in its quality, and a number of alkaline and earthy salts, these also containing organic, and inorganic acids. We also know, that, in case of disease, the solid constituents which the urine contains, are often changed in quality, and so also increased in quantity, so that instead of its specific gravity being 1020 it is as high often as 1040, and then may contain a larger quantity of Urea, Uric Acid, or some of its salts: and it may, moreover often become alkaline: it then holds in solution a new substance, or in combination, such as Albumen, Oxalic Acid, or Saccharum Albi

In health, the urine remains perfectly transparent, after its evacuation, an amorphous or chrystaline deposit may take place, and be caused by a derangement of the Digestive System, or a Suppression of the function of the skin. These depositions are noticed, when the urine has remained in the vessel, and has become cold, or may be tested by heat or Nitric Acid, or some of the tests for healthy urine. These may be so slight however as not to impair the system, as even the food may cause

these, or other depositions to take place

It will be seen by the foregoing remarks, that the secretion of healthy urine depends much upon the condition of the Digestive Organs, Skin and Food. If the stomach, it being so important, is deranged or impaired, an excess of acid takes place, which shows itself in the urine, in which certain precipitates, and depositions remain: So, too, if the function of the Skin be imperfectly performed, on which we are told by our worthy Professor, health is so intimately dependent. If the surface of the body be preternaturally dry, and the insensible perspiration of the skin be suppressed, a much greater burden is thereby thrown upon the kidneys, and their secretion becomes cloudy, in which deposits take place of various kinds. The most frequent deposit thus produced is that of Uric Acid, or Urate of Amonia. The former which is usually reddish, and minutely chrystaline, remains at the bottom ~~bottom~~ of the vessel, in which it is voided, and adhere to the sides, in the form of a crust, where it may be readily perceived. This Uric Acid may be entangled in Mucus, thereby forming a purplish sediment. When it is in a greater quantity, chrystals may be detected floating in it, by the microscope, The latter (Urate of Amonia) Sediment is generally of a pale yellowish color, and on cooling, and on being subjected to heat, (in order to dry it) forms an amorphous powder. This may not only be increased by morbid digestion and cutaneous action, but

may also depend on an habitual excess in diet, as is often dictated in those fond of high living and drinking: It may depend also depend on a constitutional tendency called "Uric Acid Diathesis" Deposits of Oxalate of Calcium, or even Oxalic Acid, are generally to be refered to imperfect digestion, whilst those of the various phosphatic salts, appear to be dependent on, or connected with loss of nervous energy of the system. They may depend upon Spinal disease: so also upon local affections of the urinary organs. But for an accurate discription of these various deposits, their chrystaline forms, and their chemical quality; also the various theories regarding their causes, and chemico-pathological relations, — as I deem it unsuitable to the present Thesis — I beg leave to refer you to the works of Prout, Lehrig, and to Golding Bird.

But from one cause or other, these deposits certainly do take place They may, sometimes, take place in the kidneys, in consequence of a deficiency of water being formed out from the ducts leading from the uriniferous tubes, and may thus pass along the ureters into the bladder causing severe pain.

If there should happen to be a considerable quantity of these deposits, the patient may suffer pain in voiding his urine; There is also a sense of heat in his urethra: This continues for some time; It may then subside, but will recur as often as there is, or remains, any digestive derangement.

7

The disposition to these, or such deposits we will generally find complicated with Gouty or Rheumatic symptoms: and the same manner of living: the same indolent habits, and the same excess in diet, that conduce to one disease, will also cause the other.

The Gouty deposits (Nitrate of Soda) take place in various parts of the body, various depositions are found in urine, and Uric Acid is frequently detected, combined with earthy matter. Besides the Uric acids, and Urate of Ammina, which are primary deposits, there may also be detected in the urine the Oxalate of Calcium, which forms a dark precipitate. We may also find Uric Acid and Urate of Ammina combined, Sometimes there may be a deposit of Urate of Soda, which is known to us, by its white precipitate. We may also find the deposits of Phosphate of Lime, or Ammina as well as Phosphate of Magnesia, which are all earthy deposits These are, or may be often combined in the friable calculus: but are generally formed in the urine of patients worn down by bodily, as well as mental fatigue, in those also who have suffered from irritation of the urinary deposits for a long time, as in those likewise who have had diseases of the coats of the bladder, or have had calculi of one kind or other, which caused long continued irritation. They may in the same ratio also take place in those who have been wearied with Mercury. for the cause of the self same disease, which they strive to eradicate, for Simble

derangement of the stomach and its appurtenances.

There may be a sediment of one kind for a time, and other deposits may take place, from a change in the Diathesis: this frequently takes place. Thus, we will often find one deposite in the centre, say, Uric Acid, this surrounded by Oxalate of Calcium, and this also coated by another, say, Nitrate of Soda. Or, instead of a solid centre, we may find a cavity. In this case the nucleus which had been formed, consists merely of mucus, or a small clot of coagulated blood, which afterwards becomes shrivelled, then absorbed, and this nucleus becomes coated over with one or other deposit in successive layers, until a calculus of considerable size has been formed. We may thus have the centre hollow, then Urate of Ammonia, covered by Oxalate of Lime, this again covered over by Uric Acid — Or there may be in the centre Uric Acid, Oxalate of Lime covering this, and the latter surrounded by Urate of Ammonia, and a white deposit coating all; the earthy deposits being almost always secondary.

These deposits cannot increase in the urine secreted in the kidneys, and pass through the ureter without causing severe suffering. It is therefore the duty of the Surgeon, then, to look to such symptoms, and by all means in his power, to prevent the formation of Stone, or, if it shall already be formed, to get rid of it with as much dispatch, and as little suffering as possible.

The question now arises, how are we to prevent the formation? The query is answered simply thus. By attention to the general health, by getting the Digestive System in proper order, by dieting our patient, properly, restricting him from using acids, or such articles of food as conduce to its formation, If he labors under acidity of Stomach, this must be corrected by alkaline remedies, such as Carb Potassa, given an hour or two after a meal, either alone or in combination with Tart potassa et Sodd, by magnesia, or by any other antacid

By these remedial and dietetic means, we may often correct the Stomach, and clear the urinary system. Small doses of Pillula Hydr. will often speedily correct the red deposit. It is also of the utmost consequence that the skin be kept clean, and the insensible perspiration be induced. To this end the patient should take exercise, have his skin well washed, and afterwards use the horse hair glove, and friction, If he cannot take exercise, he should be advised to make use of the vapor bath, and previously to his using this, it is important for him to have recourse to the horse hair glove, or the flesh brush, These cannot be used too often;

The Reverse sometimes occurs. Instead of the urine being acid it becomes alkaline, In that case, if alkaline remedies are used, the disease is only increased, and white deposits then take place

If the Phosphatic Diathesis prevails, then we will exhibit

the mineral Acids, the Nitric or Muriatic acids, These may be given alone, or be administered in combination, continuing them according to circumstances, There are various acid med^c which may be given, with a view of their combining with such deposits from the Kidneys.

There are two Calculi still remaining unnamed, but they are indeed rare. One is the Cystic Oxide, which in its composition differs remarkably from all other calculi; by its containing a large quantity of Sulphur, in a state of chemical composition, but happily this is very rare, Liston has seen but one, He thus describes it" It is chrystalized outside and has a radiated texture, and waxy appearance when a section is made of it, it emits a fetid and sulphurous smell, when submitted to heat", The other remaining calculus to be noticed is named the Uric Oxide, or Xanthic, and differs only from the uric Acid by its containing less oxygen

This is still more rare than the former, as only three have been detected and described, Sometimes a deposit is found to take place primarily in the bladder, but this is rare,

The calculus composed of Carbonate of Lime, has been formed there, This is only found to occur when the urinary organs have been long diseased, Supposing a stone should form and remain in the Kidney until it attains some size, it may

fill up the infundibulum, and may acquire such a dimension as not to be able to pass through the ureter into the bladder, Remaining there it causes great suffering to the patient, and renders him extremely uncomfortable. It has given rise to an abscess, and has been discharged from the loins. This, though, is by no means common from any cause. Generally, when a stone has been formed in the kidney, it passes through the duct leading from that organ, into the bladder, or it may continue in the ureter, inflicting great pain upon the patient.

Sometimes the concretion becomes tangled in the extremity of the ureter, and thus arises the distress of the patient, the great pain in the kidneys, passing along the duct, preventing the descent of the urine, and thereby enlarging the ureter: but the urine may thus pass off, though it will in that case be bloody. When the calculus gets into the hollow viscus, the patient is entirely relieved, and it may be small enough to pass through the urethra, without causing any great pain. He may perhaps experience a little pain in voiding his urine, as he feels something passing along his urethra, but the gruffel issue is soon made known by the calculus falling into the Chamber Pot.

But if the stone does not pass off in this way, it soon becomes larger, owing to the depositions of one kind or other

taking place around it, and thus its sings will prevent its transmitters per vias naturales

It will sooner or later give rise to symptoms of such urgent character as to make an examination necessary. When of sufficient size, it will impede the flow of urine. The water passes freely at first, then suddenly stops. This may, perchance, be the only symptom for sometime: but, as it increases in size, it becomes rough and crystaliged on its surface. The patient then suffers considerable pain after his water is voided, refering the pain to or at the glans penis. These symptoms may continue for some time with considerable intensity: then the patient remains easy for sometime, or until he has another "fit of the stone" His water may be tinged with blood, after his taking exercise; there will again be a deposit of mucus, and all the former uneasiness during and after urinating, when the stoppage of urine again takes place. These things may remain for some time before he applies for advice, as a sense of mistaken delicacy may prevent him.

A patient does not suffer as much from a large, as from a small calculus, for obvious reasons. The symptoms arising from an oxalate of Lime calculus, are generally more severe, than those caused by any of the others. The calculus

is sharp and jagged, and covered with spines, and even by a very small one of this kind, will cause great suffering. This species of calculus is found at all periods of life, but especially infancy.

A frequent desire to micturate, pain in the glans penis, after voiding the urine, and a sudden stoppage of the stream, will, in all cases, warrant us in proposing an examination of the bladder.

But, may not these things be caused without any stone being present? They may. We may find irritation occur in young subjects from derangement of the digestive organs. Worms, or Scybala in the bowels may also cause them. Such symptoms will disappear, sometimes, after purging, or by giving balsam Copaiva. The worms, or Scybala may be thus got rid of suddenly, and the irritation of the urinary organs subside. These symptoms may also exist, from a derangement of the kidneys. They also are often caused by acrimony of the urine, from its containing a great quantity of saline matter, but the symptoms from this last cause are of but short duration.

They may only exist for a few days or weeks although they are for the time, very severe. We know there is no stone, because it cannot form in so short a time. It is only when the symptoms have continued for some time, when the patient has had continued attacks, for months or years, that we may, with confidence, suspect the existence of Stone.

I have said the state of the kidneys will give rise to these symptoms. In the glandular degeneration of these organs, there are often many

marked symptoms of stone. In the latter stage of disease, when abscess has taken place in them, the signs of calculary deposit are often very well marked. There is a mucus-purulent discharge, a frequent desire to evacuate the bladder, a pulling out of the penis in young subjects and pain in its point, without the presence of stone in any part of the urinary organs. We should, in all such cases consider well the symptoms, before we propose a surgical examination

The examination, though apparently easy and simple, is far from being so. We should generally sound the patient in the recumbent posture, in order that he may suffer less and be saved the vigilance of getting sick and faint. We should place ourselves on the right side, and use a staff with a short beak, much of the shape of Baron Heurteloup's Lithotriteur, though not quite so sharply bent, in preference to those used by the old Surgeons, like the grooved staff in form, or somewhat similar to a male Catheter.

The calculus will in nineteen cases out of twenty, be found to occupy the posterior fundus of the bladder. It can here be reached with the convex part of the instrument, or the beak may be turned downwards, to strike the stone with its point. But when a patient has suffered long, when the bladder has become very irritable, and contains but little water, then this concretion may lodge at the upper fundus of the bladder, and may there be held firmly and can only be reached by depressing the handle of the instrument

Occasionally the calculus lies in a pouch of the ~~bladder~~ entrance into the bladder, behind the symphisis pubis, as has been said, and is reached by pulling the instrument out, so as to bring the concavity in contact with it

Suppose the presence of Calculi is discovered, what is to be done? Is it possible to dissolve it? It has been thought that calculi could be dissolved by medᵉ taken in by the mouth, unfortunately this is only a "take in": or by injections thrown into the bladder. The opinion now I believe among practical surgeons is, that when a calculus is once fairly formed, there is no mode of getting rid of it, but by an operation - Dr Williams is decidedly of the opinion that medicinal agents have a great effect. He thinks that even large calculi, are acted upon by patients taking medᵉ of an alkaline nature, and that the waters of Vichey, and other mineral waters, have succeeded in such cases

It was thought, at one time, that calculi were dissolved by a Mrs Stephens (of England) who exhibited soap and egg shells, but the patients did afterwards die of their original disease. It is useless to have recourse to injections, except in rare cases as when there is an accumulation of earthy matter, in the mucus of the bladder; their use, in most cases, would add much to the irritation. If we introduce a strong solution to act upon the concretion, it must act, more or less, upon the coats of the bladder,

and will only make matters worse, instead of better.
How then are we to get rid of the calculary Concretions?
Is it to be by Lithotrity, or by Lithotomy?
We will first describe the Operations, Then the Relative Merits of each

The Preparation for and prior to performing this late Operation (Lithotrity) is summed up in the few following words. It consists in both Special, and General preliminaries. The latter, in light diet, abstinence from fermented liquors, free bowels without purging, and the repeated use of the hip bath: if the urine be acid, administering some one or other of the Alkaline meds combined with Uva Ursa, or Peruvian bark: Mineral acids are recommended, if the urine is alkaline: so also is the infusion of the Medicinal agent Pereira Brava. If there should be a mucus sediment, rest, the administration also of an occasional enema of some anodyne agent, if it be necessary.
The Special is embodied in the following directions. The gradual dilatation of the urethra, and for this purpose I may mention a valuable instrument having the name of the inventor, and called "Arnotts Dilator." It will be unnecessary for me to describe it, for doubtless all who do me the honor of perusing this Thesis will have seen it more graphically described, than my pen is able to do, and my worthy Professor doubtless, has one, for, in this Ope-

-ation he avails himself of any useful auxiliary. This may, if necessary, be used. The orifice of the urethra may be divided, if it should be preternaturally contracted: also, the frequent introduction of the catheter is recommended. This latter is of the utmost importance, for it will conduce to the easy introduction of the "Dilator," and in this way will prevent the irritation which would otherwise be caused by its introduction, it being of sufficient size to crush the calculi. After the foregoing means have been continued for a sufficient length of time: or until our patient has been placed in a situation of comparative safety, for undergoing the operation: he may then be submitted to it as now to be defined and described. Lithotrity is derived from the two Greek words. Λιθος — Τριβω Lithotomy was always ranked the Chef-d'ouvre of Surgery. Lithotrity, in cases in which it is suitable, takes from it the palm, and is altogether a discovery of modern times. But few of the latest Surgical dictionaries do more than mention its name. It has sprung Minerva like, into, full grown existence and perfection, and now stands triumphant over disease A monk, by name Civiale, and a Major Martin, broke down calculi in their own bladders; the first by means of a tube, and a steel rod, upon which he struck with a hammer as a statuary strikes upon his chisel: the latter, by means of a file which he introduced through a canula: and the calculi thus broken down, were discharged piece meal with the urine. These two operations performed

long, long ago, at the dictation of painful suffering, and, consequent ingenuity, are remotely the prototypes of the Hammer at Heurtloupe, and the Drill of Civiale, the inventors and practitioners of which, are I think still alive, and the ornaments of this, the age of improvement. These instruments have been brought as near perfection as possible, and it will be unnecessary here, to describe them. Suffice it to say, the instruments of ~~Civiale~~ Civiale, and Heurtloupe are those used in the

## Operation called Lithotrity

"We are to place our patient in a recumbent posture; his pelvis should be a little raised, and the instruments then to be introduced into the bladder, through the urethra. We will find but little or no difficulty in its introduction into the hollow viscus, unless the prostate gland should be enlarged. We are to be certain of the introduction of the beak portion of the instrument fairly into the ~~cavity~~ bladder, before we attempt the rotation of it, or the expansion of the jaws We cannot always succeed in passing it downwards and depressing the handle, as we would be able to do in passing a catheter, but it may be effected by pushing it back towards the promontary of the Sacrum. Then by making the urethra straight upon the instrument, and thus introducing its curve entirely into the bladder. We know by the facility with which we can move it about, that it is fairly in that organ. The blades are then to be carefully

# Depreciation Problem of Architecture

We are to place an Instrument in a convenient position; in Public should be a little recessed, and the Instrument often to be interfered with by Leaders, through the way. We must first but little or no difficulty in the Introduction into the Auditorium, unless the Instrument should be enlarged. We are to be certain of the Introduction of the best Position of the Instrument possibly into the space taken before we attempt the Introduction of it; or the Removing of the Space We cannot always succeed in Placing it Convenient and Satisfactory to the Leader, as we would be able to do in Placing a Cottage, but it may be effected by Placing it back from the Proscenium of the Scenium. When by making the Instrument Movable- when the Instrument; and then withdrawing it some distance into the Leader. We have by the Possibility with which we can move it about that it is Possible in Theatres, &c. when it is not Being

expanded, and in all probability the calculus will fall into the jaws of it. The first evidence of the calculus being engaged, is our inability to close the blades upon each other. The instrument is next to be cautiously elevated, to about the centre of the bladder, and the blades then firmly to be pressed upon each other, in order to secure our hold. There is a gauge upon the instrument of Mr Smith's the one advised by our able professor, by which we are able to ascertain the size of the calculus, at all events in one diameter, it may probably be the smallest. The screw must now be be applied, and the calculus will be crushed easily and safely –

The feeling for the calculus may cause some pain. The crushing, none, There is but little difficulty in using the instrument to crush the fragments, the urethra being straight. We can rotate the instrument in all ~~cases~~ or any direction, and even into the fundus, expanding the blades, seizing the remains, as many as can conveniently be, in the first instance, crushing bit by bit.

The instrument is then to be withdrawn, a dose of Hydrargyrum administered, with the use of the hip baths, and plenty of bland diluent drinks recommended to the patient. In a few days the irritation will subside, and the tumefaction of the lining membrane of the neck of the bladder, and urethra, will have ceased. The patient will pass the debritus easily, and continue perhaps for a fortnight so to do. We should, perhaps, at the end of this time, or

earlier, examine the bladder again, and should we detect any remaining fragments of the Calculus. We must crush them all, and thus, in this progressing way shall we relieve our patient, without loss except a few drops of blood. The child that was operated upon during Session 1849.8, in the Baltimore Infirmary had its urine but slightly stained, and this was in a measure owing to the size of the instrument our Professor was obliged to use. Patients may go about their ordinary employment in the intermission. Great care must be taken to as certain that all the fragments have been crushed, and extracted; for if but the smallest fraction remains, deposit of some sort or other would again speedily form: and if two or more fragments be left, the patient will make but a poor exchange of perhaps a tolerably smooth and water worn calculus, for a number of irregular concretions. Some surgeons recommend the introduction of a double catheter, and the injection of warm water through the one side, which returning by the other, thus thoroughly cleanses the bladder from all the remains of the broken calculus — — — — —

Lithotomy is derived from the Greek words Λιθος. Τεμνω. Lithotomy invented for the relief of pains more cruel than any that escaped from the box

of Pandora, is one of the Operations longest known. Aesculapius practised it: but Hippocrates made his disciples swear that they would not perform it, though no one knows why, unless, most probably he deemed it too difficult for them to succeed in. Some Physicians say, it was because he was a Physician. By the way I may be permitted here to remark touching the relative rank of Surgery and Physic, that, as far, at least, as regards priority, the latter must give way to the former, as Aesculapius, the Founder of Surgery, lived upwards of seven hundred years, before the time of Hippocrates the acknowledged Father of Medicine. The history of the Operation now under notice, of the different modes of performing it; and the innumerable instruments invented for it, and the rivalry among its practitioners, in different ages and countries; is exceedingly curious, and interesting, but it is a subject rather unsuitable for the present Thesis, so that I shall touch but lightly upon the different Operations, and barely mention the instruments.

## Operations for Lithotomy

This Operation has been performed in six different modes under the following six names —

First. Celsus' Method, which was cutting upon the stone after having made it project at the perineum, by

Thursday, 25 September 1941

Dear Mother,

This afternoon I am going to see Mrs. Hall's sister, who is
staying at the Grand Hotel. I have not seen her for
years, and I am looking forward to it very much.
Mrs. Hall's sister is married to a Mr. Jones, who
is a doctor. They have two children, a boy and a girl.
The boy is called Peter, and the girl is called Mary.
Peter is at school, but Mary is still at home.
Mrs. Hall's sister is very kind to me, and I am
sure I shall enjoy my visit to her.

Your loving son,
Tom

means of the fingers introduced into the rectum. This mode was attended with several inconveniences: Such as the difficulty of dividing the parts neatly. injury done to the bladder, as well as the impossibility of drawing down the stone in many persons.

Second. Apparatus Major. which was invented by John de Romani, a Cremonian Surgeon in the year 1520. and was thus performed. An incision is made in the Median line; but the neck of the bladder is not complicated with it: it being merely dilated. This also is liable to many inconveniences. Such as ecchymoses: contusion, inflammation of the neck of the bladder. abscesses. urinary fistula. incontinence. impotence &c

Third. High Operation. This was practised by Pere Franco, about the middle of the 16" Century. It consisted in pushing the calculus above the symphisis pubis. by the fingers introduced into the rectum. This mode had fallen into disuse, until Frère Côme, revived it. It was used when the calculus is of very large size: and is thus performed; first by opening the membraneous portion of the urethra, upon a catheter passed into that canal: through this incision the Sonde à dard (a spear pointed stillet having the shape of a catheter) having been introduced into the bladder; an incision is then made in the linea alba about the symphisis pubis. about

four or five fingers breadth, and the peritoneum detatched, in order to avoid wounding it: the stillet is then pushed through the bladder, and used as a director for the knife, when the bladder is divided anteriorly as far as the neck, and the stone is then extracted. The objections to this method are too obvious to need mentioning -

Fourth. Bilateral Operations, is somewhat similar to the method of Celsus, and consists in making an incision posterior to the bulb of the urethra, and anterior to the anus, involving both sides of the perineum, by crossing the raphe at right angles. An incision is then made through the membranous portion of the urethra, and the Prostate cut bilaterally by the double Lithotome of Dupuytren.

Fifth. By the Rectum. This was proposed by Vigetius in the 16th Century, but was never noticed until Mr. Sanson in the year A.D. 1817 attracted attention to it: since which time, it has been performed in numerous instances. It consists in penetrating the bladder through that portion corresponding with the rectum, about the root of the penis, and penetrating the bladder by the neck of that organ; dividing the prostate. The operations have all given place to the Lateral except in La France

Sixth. The Lateral. The best surgeons of England, and of our own country advise this last, which is the only one I shall

take upon myself to describe.

The instruments requisite are few and simple, but at the same time exceedingly dangerous. The Staff used by our worthy Professor, whom we have the honor (and by whom I had the good fortune to see it used in the Session 1846-7) to hear; in the Surgical Department of the "University of Maryland" is decidly superior to any thing of the kind I have yet seen, and I am sure, were the Professors and Operators in this Department of the healing (cutting) art, to see it, and witness his use of it in this Operation for which he is so well known, and so justly distinguished; there would be but few, who would not make use of it afterwards, Second. The forceps it will be advisable to have by you several pair, of different sizes, and lengths, in order to meet the dimensions of the calculus to be removed.

Third The Knife Do the Professors case I again refer, provide a Scroche, in case the stone should break, & that there should be a number of calculi, and a tube of sufficient size (length) to introduce into the wound afterwards. Artery forceps. Ligatures Lint, Sponges &c,

## Preperations for this Operation

This is not so general, nor so Special, as for Lithotrity. A short time prior to performing the Operation, it will be necessary, in addition to purgatives &c. to administer an Enema, in order to

Take steps myself to describe.

The instrument required, one form and simple, but at the same time necessarily complicated. The staff used by our party Professor, when we have the honour (and by which I set the good fortune to pass it most in the basin 1870-7) to learn in the Municipal Department of the University of Maryland is decidedly superior to any fitting of the kind I have yet seen, and I am sure, more than sufficient to carry out efficiently in this department of the work (outlining) out, to say it, our existing need of in this operation for instrument to possess known; there would be but few instances of it of interest, however, the purpose it would be conducible to have upon several plans, of different sizes, and lengths, in order to meet the circumstances of the ordeal is to be removed.

Since the staff to the Professors case designed before, it would, in case the plane should board, so that there should be number of cobalt, and a tube of sufficient length (length) to introduce into the mouth of tenants, drawing, adjustments &c.

## Refractions for this Operations

This is not to proceed, nor to digress, as for [illegible] what more prior to performing the operation it will be necessary, in addition to [illegible] to administer an enema, in order to

empty the large intestines, and particularly the rectum, which, if distended with feculent matter, would be in great danger of being wounded. These, together with the treatment prior to Lithotomy, having been continued until our patient is in a fit condition, the operation is thus performed

## Lateral Operation for Lithotomy

Our patient Sir A Cooper recommends to be placed upon a table, two feet six inches high; his right foot and hand are then to be securely fastened to each other, as also the foot and hand of the left side; an additional band may be passed around the loins, or over the shoulders; the pelvis should be a little raised, the shoulders also: the thighs well separated, and to be well seperated, and held firmly: perineum to be shaved; the trunk and pelvis nearly horizontal. The grooved staff is now to be introduced well into the bladder; the larger the staff, the better; the staff is now given into the hands of an assistant, which should be firmly hooked up under the symphisis pubis, in order to give as much room as possible for the incision, and it is to be away from the rectum: the incision is to be made in the space between the anus and tuberosity of the ischium, in such a way as we shall avoid, on the one hand, the rectum and bulb of the urethra, and on the other, the pudic artery. The incision should be commenced about opposite the bulb of the urethra, carried down the ischio-rectal fossa, towards the border of the Sphincter ani of the left side: the risk in-

wounding the bowel being greater in this incision; the knife is then carried through the fatty matter, and superficial fascia in one cut; by this cut the transverse muscle of the perineum, as well as some superficial arteries will be divided across. We must begin our incision low down and carry it back by the side of the anus; but, our external cut must be free and well placed. There is no use of carrying it to the border of the Gluteus, as some Surgeons would have us do, so as to divide some of its fibres; nor will any benefit arise from all the perineal muscles being divided as Bell has recommended, Our great object must be to get into the bladder, through the membranous portion of the urethra, and not into the bulb, which must, by all means be avoided; for, if we cut into the urethra extensively, our patient may be annoyed with perineal fistula. We must endeavor, before interfering with the canal, to get as near as possible to the neck of the bladder. We should therefore pass our fingers into the space between the rectum and accelerator urinæ, so that its point may rest upon the deep fascia. Thus we make a sufficient opening into, and also slightly across the muscular fibres; the membranous portion of the urethra is then laid bare, and we feel the groove of the staff distinctly through it (I am describing the operation with the old staff) and into this we pass the nail of our fore finger. In dividing the deeper parts, the greatest caution must be used, and the edge of the knife must, upon no account, be turned upwards, lest the urethro-

bulbar artery be divided. When then, if the operation be upon a fleshy, or corpulent subject, introduce the knife (with the blade and handle a little longer than usual) over the finger ~~and back~~ back of the nail into the groove of the staff, the back of the knife being directed towards the groove. We should not introduce the knife into the groove, until we feel the apex of the Prostate! Listen! Our object is now to cut the neck of the bladder to a very limited extent, and to notch, as it were the Prostate, very slightly. This is done by pushing the knife onwards, the edge being directed downwards and outwards, knowing we cannot cut the gland to any great extent, without endangering the pelvic fascia. We cut this gland downwards, and outwards. about a half inch, in the direction of the superficial and deep incisions, so that the calculus is easily extracted, and the external opening being lower than the internal, the escape of fluids is not interfered with. We then, carefully withdraw the knife over our finger, and are able without any difficulty to pass in our finger into the cavity of the bladder. By operating in this way we plug up the opening, and prevent the escape of urine with a gush, as happens when the gorget is used -

The gland is easily dilatable after this slight incision; it is a firm structure, but still yields before the finger, though it may split a little. It is safer thus to split the prostrate than to cut it freely; because the substance of the gland will thus yield, and not the pelvic fascia

Now as regards the place, and the extent of the external cut; there is but little difference of opinion among practical surgeons; all agree that the incision should be made pretty long, and that it should extend by the side of the anus. If worth while, authorities of weight might be quoted in favor of small incisions in the neck of the bladder, such for instance are Le Cat, Payola, Pelletan, Vellisan. Scarpa advises that in adults the gland should be cut only to the extent of five lines, and but two in children. But these names and men are useless references. Look to Nature; dissect the fascia of the pelvis; examine the reflexions of this fascia from the insides of the ossa innominata upon the levator of the anus, and a turning off a layer of this back over the body of the bladder. See how it dips down upon the base of the prostrate before it splits, leaving the posterior and external portion of that gland much more exposed, than its upper and anterior parts. Look on this fascia in all respects, from within the pelvis, after separating the loose filamentous tissue which connects the bladder to the inner and anterior part of the pubes. See where this space is bounded and how Look again at the side of the bladder, prostrate, and rectum. See the layers which are furnished to the gland and bowel, by that part of the fascia after it has split, to send back the layer upon the bladder, and to form this most important boundary, between the external parts, and the loose and fine filamentous tissue about

the side of the bladder. We at once see the mischief that would arise from the breaking up of this boundary, from the admission of blood, and still more of urine, within the pelvis, and behind the peritoneum. If the base of the prostate is cut, this reflexion of the membrane must also be divided. It is the distinction of this boundary, not the cutting of the glandular structure, which causes the danger and mischief. When this incision has been made, and the prostate and neck of the bladder, gently and gradually dilated, we pass in our finger with facility, and when the perineum is not over deep, we are at once able to feel the stone, whatever may be its size —

The forceps are now carefully introduced along the left fore finger, and the calculus is seized; if too large to come away, we push it down, insert the knife over the blades, and notch the gland on the other side; or we may do this before their introduction.

We have now our finger into the bladder, and if the stone be large, the patient not corpulent, and has not a large prostate; under these circumstances, we may pass a sharp pointed bistoury over the left side of our finger, and thus cut the right side of the gland, to about the same extent as the left; The opening is now found to be dilatable to the size sufficient to let any stone pass, that can be brought out of the pelvis, and without interfering with the pelvic fascia. The design in making this incision, is to prevent, as far as possible, extravasation

of urine, by which our patient is inevitably lost, if it becomes effused in the loose tissue of the pelvis. We guard against this by the mode we make our incision, and we ensure it still further by using a proper tube; this must not be retained longer than forty and eight hours, and in children may be withdrawn in twenty. The forceps now having the stone caught are brought into the widest part of the outlet of the pelvis, and then very slowly and cautiously extracted. In thus cutting we scarcely have any bleeding, but if there should be any hemorrhage, pinn an artery, torsion, or ligating, must be used. In order to evacuate the water coming freely away we introduce an elastic catheter, through the wound, but it must be withdrawn before the healing process commences. The object is not union by first intention, but to allow the urine to flow for some days through the wound, until it gradually contracts. If any exudation of blood from the veins in the prostrate gland takes place, but pushed along the tube to empties them may be had recourse to; they soon cease bleeding, and the cellular tissue in the track of the wound soon becomes consolidated. In young subjects this may occur in twelve hours: in adults in twenty four or thirty six; and thereafter, generally, every thing goes on favorably. The tube is then to be withdrawn without dread of infiltration or hemorrhage. Bleeding may occur at the tenth day, or later, from abscesses, or ulcerations, and

from venereal excitement. If so. of course it must be stopped by some of the readiest means for restraining hemorrhage

The directions having been given, for the performance of these two operations. Lithotrity and Lithotomy. it becomes our duty, in the fourth and last place. to state the Relative Merits of them both, in order that we may know which of the two to perform, and in order to give a correct prognosis. as regards the safety or fatality of either the one or the other: or whether both alike will be equally fatal or safe, in the after results —

## Relative Merits of Lithotomy and Lithotrity

In the Practice of Medicine there are symptoms, indicating the use of remedial agents. In Surgery also we have equal signs showing the necessity of appropriate operations. And in a subject causing such an issue as either of these two operations how careful we ought to be in taking such symptoms for our guide, as will induce us to prognosticate a successful termination: and on the reverse, when there are untoward signs as shall enable us to understand that a particular operation will be fraught with danger of the greatest importance: of such moment as jeoparding life of a human being, our patient

If any capital operation were performed under circumstances indicating the direct non performance of it, and our patient should die. Surgery would be blamed, whilst the disease itself was

the real cause, and the officious hands of the unskilful Surgeon the proximate cause. It becomes the imperative duty, therefore, of professional men, especially Surgeons, to know, when, as well as how to perform, and for this reason should they pay the strictest attention to Symptomatology, (and it is to guide them by its light and symbols, in every given case) The following will apply almost exclusively to the Surgical Art, and entirely to the performance of the foregoing operations

It is for this end that the following regulations, and symptoms are laid down, in the performance of one, or other of these operations, to show us which of the two will be preferable, because safer in its results.

Lithotrity may be considered as more especially suited to adults, whose general health is good, and whose urinary apparatus is exempted from any other disease, save the presence of a Calculus, and in whom the bladder is of moderate size, and not preternaturally irritable, and which contains a calculus of small dimension, i.e. not longer than a filbert, nor excessively hard A patient in whom all these conditions are met with, may be considered as a suitable subject for this operation, in which the probability is, that but a few sittings will suffice for its completion, without the occurrence of any serious accident.

Nor are we at all unfrequently called upon to perform this

Operation upon a patient in whom all these symptoms are combined. The large majority of patients having calculi in their bladders, who apply to Surgeons for relief, have in fact, no other serious disease though the presence of Calculus is sometimes not known from the symptoms, but, only by sounding. It is also true, a patient under these circumstances, is also a fit subject for Lithotomy, and it would most probably be successful: yet we must remember that even in the most favorable cases, the mortality is great in this latter Operation. Dr Willis admits it to be one in four: it is perhaps not so great as this: that it is an Operation in which patients suffer a great deal, and have justly, so great an apprehension: as not unfrequently to exert a prejudicial effect upon the issue. That we may have unexpected difficulties arising during the Operation, no one will deny: and such difficulties may compromise the patients life, if they should arise: and even though we are sure to admit every thing sure to proceed favorably, the patient will still be entirely confined to his bed, until the complete closing of the wound.

There are therefore few Surgeons conversant with both operations who would, if such a case presented itself, hesitate to recommend Lithotrity: and even were he to recommend Lithotomy, but few patients would receive his opinions, and act thereon It is also more than probable they would apply to some other

one else, whom they judged more competent to cure them, without subjecting them to such an operation, so painful in its nature and results – Adults and persons past maturity, who are in the same condition, with this exception as the one specified, unless in whom the calculus is larger, say the size of a walnut, may in like manner be considered in a favorable condition to undergo Lithotrity. Though of course less so than when the calculus is smaller. If instead of one moderate sized stone, there are two or three small ones, the patient is not in a more unfavorable state, as he would be no worse, than if, originally, he had a large calculus, and this having been crushed after a sitting or two for Lithotrity.
Thus, though the bladder may contain several calculi, Lithotrity may still be used, providing there be no contraindicating circumstances, and the stones of small size. Though if we were certain they were numerous, Lithotomy would perhaps be preferable, on account of the length of treatment required for Lithotrity, and the calculi causing so much irritation, together with that of the frequent introduction and manoeuvering of the instruments. Here, however, the degree of irritation in the parts, and other circumstances, must be taken into consideration to guide the Surgeon in his choice, as, though he may be aware that the bladder contains more than one stone, he cannot always be certain it contains several. Under these circumstances also

the tendency to the reformation of calculi must not be banished from our minds. This indeed would be one reason for preferring Lithotrity, if other conditions were not unfavorable to its employment, as a patient in whom this predisposition was strongly developed, would, even after Lithotomy very likely require a repetition of this same severe operation, ere long: and this could not be repeated, like Lithotrity, several times in the same patient.

Lithotrity has been objected to in these, as also in similar cases, when the bladder contains only one stone, on the supposition that one or more fragments or calculi are liable to remain; after, we have deemed the operation completed. This, we will admit has occurred in several instances, and even in some persons, who have been supposed to be cured, but who afterwards died from calculary deposits. An examination of the parts has exhibited the reformation of fresh calculary degenerations, around the remaining fragments, which had prior to death been broken by Lithotrity When also the sittings for Lithotrity are obliged to be suspended for a length of time, the fragments very often become coated with some of the Phosphates. This accident, though more likely to happen in, is not peculiar to, Lithotrity, especially when the bladder contains several stones, or when one is broken ~~by~~ in the attempt to extract it. When, however after proper explorations of the bladder have been made, and no more calculi or fragments can be felt

it is but fair to conclude that none exists, even should one or more escape detection by being lodged in a fold of mucous membrane of the bladder, or otherwise. Lithotrity should not bear the lance, as we can only expect by it to attack what is tangible, and in many of the patients when the calculus is again formed in the bladder, sometime after the performance of either Lithotomy or Lithotrity, and the patient considered cured, we are justly ~~by~~ no more responsible than if we attended a patient for Pneumonia, and twelve months after his recovery, we had him again under our treatment for Enteritis or Pneumonia. For the calculus may have descended subsequently from the kidneys, particularly should there have been several calculi, which indicates the Calculus Diathesis

If the stone is small, but of considerable hardness, the favorable prognosis is for the Operation of Lithotrity, and it should generally be preferred to Lithotomy, unless there are some contra indicating circumstances. The hardness of the stone, provided it be small, need not, as formerly, deter us from the performance of Lithotrity, which in such cases, will be facilitated by percussion of percharee, the new improvement in the instrument, the screw, be unable to crush the calculi without the danger of the blades giving way. If, however,

we have good reasons for believing the calculus of larger dimensions — say the size of a walnut in diameter, and in conjunction with such a size, it be of great density, this operation would be attended with considerable risk, and Lithotomy would be the preferable mode in the plurality of cases; and in a still greater ratio, if the symptoms of the deposit be very severe, and with this there should be much irritability of the bladder, on the introduction of the instruments The hardness of the deposit, is favorable for Lithotomy, and is some considerable objection to Lithotrity. for where the calculus is reached by the Lithotomy forceps. it is much more easy to be extracted, than a softer one, which by the pressure of the forceps. might be crushed; and there then would be the more frequent necessity of the introduction of the forceps, or scoope. Besides there is then the risk of a portion of the fragments being left,

In the same ratio to the increased size of the calculus, if it should be larger than (those dimensions) say, from twelve to fifteen lines in diameter (due regard being always paid, in estimating this circumstance, to the relative capacity and irritability of the bladder) the case is more unfavorable to Lithotrity, which we must recollect is altogether unsuited to very large deposits. It may be, however, in some cases, of calculi, being the size of a hen's egg, and composed entirely of, or chiefly so, the Phosphates, and consequently more easily broken, Lithotrity might still be chosen, in preference to Lithotomy; as in such cases is often

contra-indicated: or its performance might be attended with considerable hazard, because of the diseased state of the urenary or other organs: consequently the former of these operations, though it be performed under very disadvantageous circumstances, would more likely succeed in relieving the patient from his malady, and should be performed, if the patient be in a condition to admit of its application with any prospect of success.

The smaller, and the more friable the calculus cæteris paribus, the more favorable is our patient for Lithotrity: some calculary deposits are so friable as to break on the slightest pressure, and some are so soft as to crumble spontaneously, forming a kind of mortar in the bladder, for which the Lithotrite need not be used, as they can be removed by the scoop, catheter, and injections into the bladder.

In the foregoing observations, I have refered chiefly to the nature and texture of the calculus to be removed; but there are still more important circumstances to be considered prior to having recourse either to Lithotrity, or to Lithotomy. The state of the parts in question is to be carefully considered. In the first place, a contracted urethra must always be an objection; yet the late improvements in the instruments may in a measure, obviate this. A narrow urethra will not only prevent the using of the proper instruments and their easy management, but will also prevent the easy and ready discharge of the debris. The same may also—

be said when stricture is the cause of the narrowness of the parts, although, this may be remedied before the operation. When in conjunction with the stricture, other indications are met with unfavorable for Lithotrity, such as a large or hard stone, a contracted or diseased state of the bladder, great irritability on the introduction of instruments, or an enlarged prostate Gland, Lithotomy would more generally be advisable; and if successful, would, at the same time, relieve the patient of his calculus, as well as his stricture. When the urethra is more closely bound up to the Symphisis pubis than usual, the curve is also much increased, and of course will prevent the free introduction of instruments which are comparatively straight; for the curved instrument, which is now used, does not remedy this difficulty, the curved part being very short and entirely within the bladder, during the operation, Enlargement of the Prostate more especially of its middle lobe, is also a very common cause of the increased curvature of the Urethra, and this curve may exist to such an extent as to render the operation of Lithotrity impracticable, with safety. At the same time an enlarged Prostate is an equal cause of danger in Lithotomy, it not only being so from an increased depth of the parts to be cut through between the skin and bladder, and from the incision being made through a part morbidly sensitive; but also from the enlargement being so frequently complicated, especially in

old people, with disease in other parts. We have seen a contracted urethra is unfavorable to the success of Lithotrity. how much more so then is a thickened and contracted bladder for in this case both Lithotomy and Lithotrity would be dangerous. When the symptoms are of a very urgent character, and the bladder in a high state of inflammation. Lithotrity, would greatly add to the danger, and should not be performed, unless advantages predominate in other ways: such as the stone being small and soft, In this case, the sittings must be short and sufficient time allowed to intervene between each operation. It sometimes happens that by a repetition of the operation, instead of increasing the irritability of the bladder, it diminishes it. If to this state of the bladder, there be added a state of subacute inflammation, Lithotomy would be inadmissible, and if the patient must be operated upon, Lithotrity should be the chosen mode, especially if the inflammation be kept up by the calculus. Should the inflammation be decidedly of a chronic character, and at the same time not accompanied by much pain, or irritability of the bladder. but attended with a copious secretion of mucus, though, this is an unfavorable complication, Lithotrity would be certainly preferable, as the calculus, in these cases, is generally composed of the Phosphates, is soft and readily reduced to fragments.

We often have combined with the condition of (old age) atony.

or it may be even paralysis, and these have been advanced against the performance of Lithotrity. because of the irritability of the patient to discharge the fragments after the operation or even to empty the bladder of its common contents. The calculus may also be of a very large size, before it causes much irritation.

In similar cases, the Prostate Gland may be very much enlarged if this be so, Lithotomy would be the preferable method; but, if the atony of that organ be complete, Lithotrity would often be chosen always taking care to regulate the sittings by the circumstances or condition of the patient, and to remember that the bladder, by not being preternaturally irritable, is not that safe dinameter to the operation, which it is in other cases, If there should be abscesses, ulcerations, or morbid growths of the bladder, as evinced by the passage of blood, pus &c. this condition would render any operation inadmissible; provided we had no sufficient reason to suppose that the blood, or pus came from the kidneys, the prostate Gland, the perineum, or the mucus membrane of the urethra. If, in conjunction with stone, there exists any organic disease in any part of the body, it renders any capital operation unfavorable, and especially that of Lithotomy; though, in such cases, Lithotrity might be of service. The preceding observations apply more especially to adult cases (in males) and those above puberty: but, in children between ten and twelve years, the common occurrence of calculi. At this age, Lithotrity is not so advantageous on

account of the contracted state of the urethra. and, moreover, the length of time required, for the relief of persons so young. For, in such cases, ~~the~~ it is obvious that fragments are required to be broken up more completely than would be necessary in the adult whose urethra is wider In case of the child operated upon in the Baltimore Infirmary at the commencement of Session 47.8. nothing could have been more successful But how can we wonder at it, for what ever .N.R. Smith undertakes (if the case be at all favorable). as a matter of course, succeeds. Other privious objections may likewise exist, as the great susceptibility of the nervous system, and irritability of the parts concerned. In young children for the most part, Lithotomy (though I say it with much hesitancy) is generally to be preferred to Lithotrity, for a variety of reasons

We have now seen, that Lithotomy is still, in the present state of Surgery, the operation most suited, to the majority of Stone patients: for as many as one half of patients having calculary deposits, are children to whom, with some exceptions, it is more adapted

That, as far as adults, and elderly persons are concerned, Lithotrity is most applicable, in an equal, if, not a greater ratio of cases.

Lithotrity is admitted to be preferable in the great majority of female cases ceteris paribus. Lithotrity, is more especially suited to calculi of small size, even though, they be hard. In most cases when the bladder contains a number of stones, and especially if, they be hard, Lithotrity is not so applicable Lithotomy, is the preferable, and often the only admissible operation. in cases,

in which the calculi are very large: as, also, when the stone, though only of moderate size, is yet of considerable density, and irregular on its surface, as in the oxalate of lealcium variety

If there be much irritability of the urethra and bladder, which cannot be allayed by General and Special treatment, Lithotomy will be the preferable operation: and especially so, if the irritability of the bladder appears chiefly upon the presence of the calculus

Lithotrity is applicable in some cases of deranged health, or disease of parts, which would contra indicate Lithotomy, or would render its performance most likely to be attended with danger and failure

The suffering from the performance of Lithotrity is not great in many cases, and is mostly diminished after the first sittings: but, in other cases, the operation is very painful, and the pain becomes increased in each subsequent sitting, though so never so acute, as in the operation of Lithotomy Yet, as the pain in the latter continues only for a few minutes, but, in the former recurs, though less in degree, on each sitting, in the main. the patient suffers by Lithotrity a greater amount of pain than he would do by the operation of Lithotomy.

The duration of treatment is generally longer in Lithotrity, than Litho-tomy. though, it is sometimes the reverse. After the extraction of the stone by the latter operation, the patient; though, confined to his bed, may, during the greater part of the time, be considered convalescent; where as, when Lithotrity is performed there is always risk, so long as any fragments

remain in the bladder, of circumstances arising to prevent the completion of the operation, and the patient cannot be regarded as at any time out of danger.

The method of Pressure is, in the great majority of cases, infinitely better suited to percussion, when Lithotrity is applied. The risk of relapse is greater in Lithotrity than in Lithotomy, because of the probability of a portion of the calculus having escaped detection, and remaining in the bladder after the performance of this operation

We have not as yet any sufficient data whereupon to form an accurate estimate of the average amount of failure, and the mortality after Lithotrity: the accounts we now have are of a very contradictory nature; some of them respecting Lithotrity as more successful in its results, than many slight operations, and others stating the number of failures to be very great. The cases of several unsuccessful attempts having been brought to light, which were not adverted to by Surgeons who operated, both in Europe and in this country, tend very much to discredit the cures, of some that have been reported: though, as far as the results are concerned, much must depend upon the operators being accustomed to the use of the instruments, and knowing when to desist from persevering in the attempts; so also in their of proper cases, cases suitable for the Operation. It is however, satisfactory to know, that since the instruments have become more simple and perfect in their construction, and the manner of operating is better understood by the generality of practical Surgeons. the proper-

— tion of failures, has been much less than at an earlier date.

This, Gentlemen, closes my Inaugural Dissertation, which, with becoming respect, the Author now submits, in compliance with established usage, to your kind and indulgent consideration— let me beg of you

"Do pass my imperfections by
Nor view me with a critics eye"

as it is only a Student who submits this to your consideration, and who begs leave to request all the lenity to be shown his Thesis, as well as himself— when he appears before your honorable body, in the

Green Room. Cetera desunt —

An

Inaugural Dissertation

on

# Acute Gastritis

Respectfully Submitted
to the
Examination
of the
Provost, Regents & Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by
Ara Spence
of
Maryland

1848

# Acute Gastritis

In commencing my Thesis, I feel the same embarassment which is so common to those, who are preparing a first essay, which is to be subjected to the inspection of a critical Public, or Medical Faculty, and also to add to our embarrassment is the fact that we write from, or get nearly all our ideas from what we read, the experience, or observation of a medical student, certainly is small, and to compile or paraphrase would be but time spent idly and paper wasted. To speculate we should have to read the speculations of others, (although older heads) which are a better part of them, little else than "fancy dreams, and ingenious too" of the imaginations of men, and minds, too zealous, and sometimes too ambitious, to wait for the improvement of science, founded on fact and see what she might

find out, or what sober reasoning, experience, and observation, the basis of all true knowledge, might decide. If it were left to us in this stage of our knowledge, to write an essay, we should hesitate, but as it is one of the requirements of the Faculty of a candidate for graduation to do so, we sacrafice unpleasant feelings, and bow to the shrine of duty, as our duty should be our pleasure. It is said that the approaches to science, are rugged and uninteresting, it is partly true. When first entering its paths the whole horyzon seems to be covered with the darkest clouds, every path seems to be obstructed ~~with~~ with insurmountable difficulties, and to overcome one, is but to make two, and to our minds perplexed with difficulties, to collect, digest, and to recollect, crude, and dry facts, seems to be the only invitation

that science holds out to us to embrace her,
In every undertaking there are days of sunshine and success, not a cloud darkens for a moment the prospect, one continued clear sky is above us, time appears to bring nothing but prosperity, every hour and moment seem to glide so easily by that we hail them with joy, But dark days do come, clouds of disapointment appear on every side, the prospect is cheerless, the spirits and energies seem to sink under every petty disapointment, the bouyancy of youthful hope, and ambition, which yesterday, beat strong in his bosom seem to day to have flown and left him, but a dull dilatory machine, moved not by mental but physical power, in these moments, let him but think of the object, result, and hoped

for glory of his undertaking once gained, and it will wile away, many hours of forlorn hope, and days of tedious labour will come welcomed, and then will he say "Labor ipse voluptas", As the subject of our Thesis we have chosen Acute Gastritis, or Acute inflamation of the inner or mucous coat of the stomach Acute Gastritis from the importance of the organ diseased, from the great number, and variety of the causes that may produce it, and from the fact that it may happen in any clime & at any time of life, and that it is so often complicated with other diseases, must be a disease, to the practitioner of great and unusual pathological and physiological interest. The wide influence that the stomach posseses over the animal economy, at once establishes the importance of its diseases, It was said by the

Ancients to be the seat of the soul,
the conscience itself, so great was
the importance they attached to it;
and by Broussais and his disciples
to inflamation of it, and the rest
of the alimentary canal was attributed
the "fons et origo" of all diseases

Idiopathic acute Gastritis is a
rare disease, but as the consequence
of taking acrid poisons into the
stomach, it may be said to be
common, and we also not
unfrequently find it complicated
with other diseases The disease
when once established is rapid in
its course, and if not relieved,
terminates or may do so life in
twenty four or forty eight hours.
It is not however generally fatal,
if treated in time, and then is
probably no disease in which
we see so great benefit from
our remedies as in this ~~disease~~
We might expect to find this a

more common; and at the same time a more fatal disease than it is, when we consider the great office it performs, and its great exposure, It is the common receptacle of every thing taken into system, either as food or poison, and upon its proper function depends life itself, Truly does Avon's Bard say "It is the store house and shop
Of the whole body ——
The smallest nerves; and great superior veins
From it receive their natural competence,
Whereby they live".

That Acute Gastritis was known to the Ancients however strange and vague their ideas of it, is proved by their writings, They knew there was inflamation in that organ, accompanied by fever, heat, and pain, vomiting and the ordinary symptoms, of that disease but of its seat and nature they were ignorant. They

confined the inflamation not
to any one coat of the stomach,
but to all, and sometimes to
neighbouring organs, as the duodenum,
heart, lungs, spleen &c, By them it
was divided into two kinds, Phlegmonous
and Erysipelatous, They describe
Phlegmonous Gastritis, as taking
place only in hearty & plethoric
persons, and that it was an
inflammation that took place only
under favourable circumstances,
that is was bold, distinct and
ran through its regular course,
and terminated in one of the
regular terminations of inflama-
tion, and that it admitted of
bloodletting, or in other words
it was healthy inflamation,
The Erysipelatous inflamation
on the other hand took place,
only in persons of broken down
constitutions, that it ran no
regular course, and did not

admit of bloodletting, but demanded barks, stimulants &. To take or give this as the pathology of Acute Gastritis, would be but to excite the smiles and pity of Modern Pathologist "Apelus credat non ego" It is a known, and established fact, that healthy inflamation of any part, may and often does commence healthy and become typhoid, and that healthy inflamation may take place in persons of broken down constitution and vice versa, But a change has come over the Profession in their opinion of the pathology of this disease For a true knowledge of the pathology of this disease and a hundred others, and for the broad, and vivid light, that has been shed upon the treatment of this and many befor obscure diseases we should ever turn with grateful hearts, to those, who

first suggested the importace of pathological anatomy and spent their lives in exploring its hidden mysteries,

In examining the stomachs of persons who have died of Acute Gastritis we find many morbid appearanes, or great deviations from the appearances of healthy stomachs, We shall find redness, softning, and thickning of the mucous membranes, ulceration and perforation of the entire pantes of the stomach, sometimes gungrene, and sometimes false membranes. The stomach is sometimes found contracted and sometimes distented. Although redness, is sign of inflamation, and almost pathognomonic yet as it is sometimes met with in the stomach it does not establish the fact that there has been inflamation, in the mucous coat of that organ.

In the healthy stomach we at times have redness of the inner coat of that organ, depending upon the congestion which takes place when any thing is taken into it, which demands the solvent power of that organ, death taking place during the congested state of the ~~org~~ mucous coat gives it the red appearance,. We may also have redness from another cause, which may deceive those that are not aware of it A short time before, and during death the heart being weak and ceasing to supply the arteries with blood, and they returning their remaining blood into veins, gives this venous congestion, which is always attended by emptiness of neighboring arteries, and which congestion would give rise to the redness we see in the stomach after death, The redness that

denotes inflamation, or inflamatory redness if you please, is so well marked; and has so many concomitant signs; that none need err. It is confined to certain parts of the stomach, is circumscribed, consisting of venous arborizations, with stellated echymosis, in vascular bands and in pointed lines. It is attended by fullness of arteries, and emptiness of corresponding veins, contrary to what we see in venous congestion produced by death. We shall sometimes find, in examining the stomachs of those who have died of Acute Gastritis, softning and thickning of the coats & lining them, and we find this lesion oftener probably than any other. The softning is sometimes so great, that the least scraping with the scapel, leaves the coat next it exposed seeming as it were men pulp,

This softning is sometimes follow-
ed by induration and thickness
of neighbouring coats. Another sad
appearance we too often find is
ulceration, and with it perforation
of the coats of the stomach,
The ulcers may be many or
few, and situated in any
part of the organ or we may
find nearly the whole surface
of the stomach ulcerated,
Ulceration is by far the most
common cause of death, and
may terminate life in various
ways, The ulcer by eating its way
through the coats of the stomach
produce ~~hemorrhage~~ fatal Peritonitis
or by eating its way into some
large blood vessel, produce more
certain death by hemorrhage,
It was by a small ulcer in
the stomach of Napoleon Bonaparte,
that great Heaven determined
to cut the thread of life, of

one of the most eminent, that fame ever knew, but to teach succeeding generations their dependence on its will, and the perishable tendency of all that men call great, grandeur, vanity, and glory,

"But yesterday the word of Caesar might
Have stood against the world, now lies he there
And none so poor, to do him reverence."

False membranes are rarely found, but that is not proof that they are not constantly formed, the constant vomiting probably breaks them up, and throws them out, and this may be a cause of finding this lesion in so few cases, Gangrene is not so rare especialy when the inflamation depends upon, caustic or acrid substances being taken into the stomach.

Among the various causes of this disease, may be mentioned

the taking into the stomach irritating and corrosive poisons, large and repeated doses of harsh purgatives, improper and improperly repeated emetics, over distention of the stomach at any time with indigestible food, large meals of improper food, when recovering from sickness, large drinks of water and acids when the body is heated, exposure, miasms of some kinds, and sometimes the simple and innocent to one, to another may produce it, But sometimes we have as a cause of it and too often, an these systems of Medicine with their plan of treating disease, which flourish in our land sending thousands to early and premature graves if not by Acute Gastritis, Gastro Enteritis, too many examples of which were presented the past Autumn;

by a county in the lower part of this state, The invention of quack remedies, and quack systems of medicine, has become the ruling passion of the age. The self styled Botanic system, with its vegetable doctors, and mighty and omnipotent lobelia. The Homopathic system, with its double refined, and twice concentrated minims of china, and to these add the boxes, barrels, and warehouses, of patent pills, lozenges, and syrups, all may be numbered among the causes of Acute Gastritis and Heaven only knows how many others and well may these be styled "the modern damnation of these latter days", The inventors, knowing that men grasp at novelty, surround, nurse and feed it, though it may deceive

them as oft as it will, and though it may be absurd as it can be. Knowing and it is nearly true, that this is an age of excitement, and the time has passed, when it was necessary to convince the reason of inteligent people, that they were forget reason, and bow to the shrine of delusion, and are governed by the momentary impulse of excitable feeling, The present Public put to shame the experience of the past, and live but to be gulled. They sacrafice not property but sweet life to Brandeths Wrights or some other indian vegitable pills, The inventors, and venders, being aware of this, and taking advantage of human weakness, thus become thieves upon the pockets, and robbers of the lives, of their fellow men. If there is a place of future punishment

prepared for imposters & assasins, for the most ignorant inventors and venders of quack medicines then is one "Hells hottest and deepest gulf"

As symptoms of Acute Gastritis we can not give better ones than those that take place, when any caustic or irritating poison has been taken into the stomach. Among these may be mentioned, constant nausea and vomiting, intolerable thirst a desire for cool acidulated drinks, a dislike to warm drinks they aggravating instead of relieving the disease a burning sensation with a lanceolating pain over the region of the stomach, which becomes tense, red and so tender that the least pressure can not be borne. The skin is hot & dry, the pulse at first rapid

and urine soon becomes weak and frequent, the bowels are either costive, or effected with diarhoea, and the tongue is tremulous, red around its edges, and coated by a white fur, the patient if not relieved begins to sink, his respiration becomes hurried, he but half breathes, a full respiration being painfull by the presure of the diaphram against the inflamed stomach, His skin becomes cold and pale, his extremities are below the natural temperature, while his trunk is considerably above it, stone instead of vomiting up every thing he swallows, regurgitation takes the place of ~~swall~~ vomiting, Pressure at this time can be borne, low delerium sometimes comes on, he hiccoughs, picks at the bed clothes and dies.

There are some symptoms although not constant, as yet sometimes met with, and should be noticed and studied; among those may be numbered, hiccough, the incapability of swallowing in the latter stages of the disease and some sympathetic symptoms, To account for the incapability of swallowing various modes have been devised, the most satisfactory one is that it is caused by spasmodic stricture of the cardiac orifice of the stomach, or spasm of the oesophagus, and sometimes even of pharynx, This symptom is universally followed by tightness about the precordia and also considerable oppression there, To account for the hiccough various ways and means have been devised, by some it is said to be a sympathetic sign of

gangrene, by others it is attributed to the inflamation around and of the cardiac orifice, the latter seems to be the most reasonable, as the stomachs of persons having this a prominent symptom, before death have been examined and no gangrene found, and on the contrary, gangrene has been found in stomachs when he cough formed no symptom of the previous disease Then an also several sympathetic symptoms, or symptoms the result of sympathetic imitation, in other organs, as the heart, lungs, and brain. The heart is sometimes violently excited in Acute Gastritis and sometimes the contrary, sometimes doubling its usual number of beats in a given time and at other times, it can scarcely be perceived to beat at all,

That then is a sympathy between the heart and stomach, we have but to observe the effect of nausea upon the heart to prove it, or on the contrary, the effect of taking large quantities of blood upon the stomach, nausea and the vomiting being the consequence of sympathy, How do we account for this? Authors tell us there is sympathy and that sympathy exists between the various organs of the body through the medium of the nerves, The heart and stomach being supplied by filaments from the great ganglionic system, we can easily understand if one is effected the other will also be, And in the same way we can account for the sympathy between the brain and lungs.

Among the remedies used in the treatment of this disease may be mentioned, bloodletting general and topical, enemata, blisters, ice, the effervescing draught, with and without morphia, prusic acid &c, If general bloodletting be resorted to in this disease, it should be done early and not with the expectation of cutting it short, but prepaing the system to receive the benefit of the local, When taking blood from the arm, the finger should be kept on the pulse, and should it not be found to rise and become fuller it should be stopped, and local bleeding resorted to from which to expect the great benefit. It is strange, but true that mucous inflamation will not bear, neither will it be benefited by general bleeding.

as serous inflamation, and that serous inflamation is not benefitted by local bleeding while mucous is, We may cut short serous inflamation by bleeding in the first stage but mucous ~~within~~ never The best manner, in which local bleeding can be performed, is by leeches, and these should be applied immediately over the part, and soon as removed, warm poultices should be applied on the part. When leeches ~~do~~ can not be obtained cups may be used, these may be put either over the stomach or over the spine, the latter seems to be best place If when first called to a case of this disease we find that it was caused by taking poison into the stomach it becomes our first duty~~s~~, to find out whether

then still remains any poison
in stomach and if so to
remove it by an emetic,
Among the anodynes used in
this dissease, ice and ice
cold water, seem to be the magic
ones. There is nothing so agreable
to him as it It satisfies his
intolerable thirst and at the
same time soothes pain, The
effervescing draught, with and
without Morphia, have been
reccomended, it may be useful
in some cases but not all.
Instead of diminishing the
constant thirst it only
increases it & proves a source
frequently of great irritation,
It may be given with advantage
with morphia, but should be
watched and should it
not be of benefit, it should
be stopped. Brissic acid has

been given no doubt with
advantage, and is one of the
best remedies as an anodyne,
and will be found to afford
more relief and to be better borne
by the stomach than any
other medicine in the whole
catalogue of anodynes, The
excitement having been reduced,
blisters may be used, but
we should bear in mind
while using them, that they
are not only revulsives but
also stimulants. If none the
stomach will bear it large
doses of calomel and opium
may be used, If the bowels
are costive aperient enemata
may be used, or if effected
with diarrhea astringents ones
may be used In treating
this disease we should bear
in mind to drug is but to
murder. After Convalescence

has been established, it then becomes our duty to attend to his diet and habits of life. His diet should be of the lightest kind and in small quantities at a time, His clothing should be warm and of such kind as not to expose him to cold, He should stay in the house until emphatically well

An

Inaugural Dissertation

on

Acute Inflammatory Croup

Submitted to the Examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

W. B. Barrett

of

Pennsylvania

# Acute Inflammatory Croup.

It is a fact generally acknowledged, that what is called Cynanche Trachealis, or Croup is an inflammation affecting the mucous membrane of the Larynx. Should it be confined to that part only, the mischief often arising from it might easily be averted, but we find it rapidly extending to Trachea, and in many instances to the bronchi.

It is essentially a disease of childhood, occurring most commonly in Children between two and eight years of age, and more frequently in boys than girls. What is most extraordinary, is to find the apparently hardy and fat child most obnoxious to the disease, whilst the sickly and ricketty one is rarely affected with it. Different are the ways in which this malady is ushered in, In many instances the attack is sudden and severe from the outset, in others it is slow in its progress but sure, and more dangerous, beginning much like a cold, with a slight degree of hoarseness, so much so that parents are in a measure indifferent, and this indifference is frequently the cause of so many

fatal cases that occur, which might otherwise have terminated favorably.

Symptoms. We have already remarked, that one of the first symptoms of this disease, is a very peculiar hoarseness when the child coughs, together with slight difficulty of breathing, and a change of the voice. There is generally more or less febrile excitement present from the commencement of the disease. Some uneasiness about the throat. After a longer or shorter period, all the symptoms become aggravated. The hoarseness ~~is~~ is increased; the breathing becomes more difficult and distressing; the voice more indistinct and whispering, or perhaps totally annulled; the febrile excitement rises higher, the face becomes flushed, the skin hot, the pulse frequent and hard; great uneasiness about the throat; the inspiration becomes sonorous; a very distinctive stridulous cough, as if issuing from a brass instrument, this cough is peculiar to croup, and is easily recognized after it has once been heard; absence of all difficulty of swallowing. At this period the cough is often quite dry, but in

Some instances a copious, and very tenacious albumenoid fluid is secreted in the larynx and trachea from the very onset of the disease, and in most of the cases a false membrane is formed in the respiratory tube, but many fatal cases have occurred, in which it was entirely absent, and instead of which a purulent and viscid exudation of mucus, took place in the trachea and bronchi, part of which is sometimes expectorated. If the disease is allowed to run on without being checked in its violence, and progress, the breathing at last acquires a degree of oppression truly distressing; the blood ceases to be duly arterialized; the face is no longer flushed, but a dark lividity takes its place; the forehead becomes shining, and looks as if the skin was tightly stretched over it, it is wet with a cold perspiration, as is almost every part of the body. The pulse is feeble and irregular; and the extremities cold and clammy: the Cough also as the disease progresses, is less harsh and loses a portion of that clanging, or vibratory sound, and becomes husky, and inaudible at a short

distance; and the voice sinks into a whisper; the head is thrown back; the mouth kept open; the nostrils widely dilated; the face pale, and livid, and covered with large drops of sweat; the eyes are half closed, or cast about as if imploring relief equally from strangers and friends.

When these symptoms of sinking come on, the case usually terminates fatally; drowsiness supervenes; the breathing becomes gasping, and interrupted; convulsions come on and close the agonizing scene.

Course. This disease runs its course variously: in some instances only a few hours elapse between its commencement and fatal termination; in others the patient lingers for days or even weeks.

Anatomical Characters. In most very case we find on dissection, the mucous membrane of the larynx and trachea very manifestly congested; and the glottis is very frequently discovered to be considerably narrowed, by a kind of thickening or tumefaction of its lips. We also find a false membrane sometimes extending down to the bronchi,

variable in thickness and tenacity, closely connected to the mucous membrane. Signs of inflammation are occasionally found in the pleura.

Causes. This is one of those inflammatory diseases, for which a predisposition appears to be congenial. It is certain at least that in some families, the children seem particularly predisposed to the disease, whilst in others it never makes its appearance. Age is also an universal and influential cause in its production, as the disease occurs almost uniformly in childhood, although it is not wholly confined to this age, but occasionally occurs in adults, and even in very advanced age. There is another circumstance which has a considerable share in the production of this disease, which is the almost universal plan of dressing children, so as to have the neck, and upper part of the chest bare, which renders them very liable to the injurious influence of cold in these parts. It also appears as I had occasion to remark before, that florid, robust, and fat children are much more liable to the disease than such as are of an opposite habit. There is no doubt

that various other predisposing causes exist, but it is very difficult to ascertain them.

Cold or sudden vicissitudes of atmospheric temperature is certainly the principal exciting cause of this disease, in as much as in Spring and Autumn, with their cold and moist winds, most of the cases occur. It is frequently occasioned by sleeping in a cold room, after having been in a hot one all day. Also occasioned by the inhalation of irritating substances.

Prognosis. This is a disease which is justly regarded as very dangerous. Formerly it was stated that four out of every five who were attacked with ~~this disease~~ it died, but under the present improved Pathology, and mode of Treatment, the proportion of fatal cases is greatly diminished. Frightful and dangerous as the disease appears, when suffered to pursue its course unmolested, or when treated very inadequately, it is nevertheless as much under the control of prompt and energetic Antiphlogistic Treatment, as any of the more serious inflammatory affections. We know that the chance of escape is smaller or greater

in proportion to the extent of the inflammation, and its albumenoid product into the ramifications of the bronchi. It also appears that the more sudden is the attack when accompanied with considerable fever, the greater is the danger. The prognosis is generally to be collected from the general appearance of the child and the virulence of the symptoms. If the distress of breathing appears to decline, and the expectoration become free, whilst the strength is yet entire, we may venture to hope. But when the lips have become livid, the face pale, and covered with large drops of sweat, the pulse feeble, and irregular, the extremities cold, and clammy, sensibility diminished, and coma ensuing, we have reason to despair. The Prognosis in this disease is often however exceedingly fallacious.

Diagnosis. From Diphtheritic croup it is distinguished, by the inflammation in the acute form always commencing in the larynx, whereas in the Diphtheritic variety the laryngeal affection is always consecutive, the inflammation commencing in the back fauces. In the acute form on look-

ing into the back-fauces you see nothing, in the other form you see a diphtheritic deposit. In the acute the fever is of an inflammatory character, whereas in the diphtheritic it assumes a low, adynamic, typhoid tendency. The acute is essentially a spasmodic disease, the other is not. The former is never met with except in children, the latter may occur in adults. The fauces in the acute form are always healthy, but in the diphtheritic form they are diseased, which gives us difficulty of deglutition as a symptom of the latter, which we have not in the former variety.

Treatment. If due attention was paid to the timely application of appropriate remedies, in the forming stage of this disease, there is no doubt that fewer cases would prove fatal, which otherwise do so. It is to the want of knowledge, of what a hoarseness may lead to, that this obvious and almost certain symptom is neglected, when it shows itself; and it is to this neglect, that we must attribute, the too often fatal termination of the disease. As this dis-

-ease most commonly makes its attack during the night, parents in whose children a predisposition to ~~this disease~~ it appears to be congenital, and in fact all parents, ought always to have at hand, the remedies about to be mentioned, so that no time may be lost in their application. The instant the croupy sound is observed, the exterior of the throat should be inflamed, by the application of the spirits of turpentine, hartshorn, or mustard and vinegar. This may be repeated, if the first application has not subdued the hoarseness, after the rubefacient effect has subsided, for, it may be proper to state, that stimulation should not be carried to the extent of blistering, at same time give the patient some nauseant expectorant, as small doses of tartar emetic or ipecacuanha. The bowels should be opened by small doses of castor oil, he should confine him entirely to the farinaceous articles of diet. confine him to the house and most carefully guard him against exposure to draughts of cold air, give him a good warm

foot bath, or a full warm bath. The throat should also be protected by a roller of flannel or some other warm covering, after the external applications has been removed. If this plan of treatment is fully carried out in this early stage of the disease, there is no doubt, but that there are very few cases ~~of this disease~~ which will not yeild.

When however the disease has become fully formed, the remedies that most requir our consideration are blood letting, tartarized antimony, and Calomel. Bloodletting is the remedy upon which we place our chief reliance, for the reduction of the local inflammation. In this disease as in most other inflammatory affections, bleeding in order to be beneficial must be practiced early, for if it be neglected or inefficiently employed, in this stage of the malady, its progress will be extremely perilous, whatever other remediate measures be employed. If in the patient to whom one may be called, there be symptoms of great febrile excitement, and active tracheal in-

flammation, a vein should be opened and the blood suffered to flow until approach to syncope be induced. As soon as this effect is produced the difficulty of breathing, and in fact all the distressing symptoms subside. But if in the course of a few hours they should again recur, which in some instances they do, and the pulse be not soft and feeble, the bleeding may be repeated. It is not necessary in every case to have recourse to such copious depletion, only in those cases in which the inflammatory action is strong, the pulse being tense, hard, and vigorous, accompanied by a dry sonorous cough, and respiration. These cases are apt to be followed by the formation of a false membrane; and it is only by prompt and vigorous blood letting, that the inflammation can be reduced, below that degree necessary for the formation of membranous matter. After the effusion has taken place, little or no advantage will be afforded by blood-letting. No rule can be laid down for the quantity of blood to be

taken in this disease. In general let it be carried to such an extent as to make an impression on the pulse. The mode in which the blood is to be taken, must be modified according to the age of the patient. Thus where it is impossible for us to resort to the lancet, which we should do in all cases in which it is practicable, we must use cupping glasses in the cases of older children, and leeches in infants. The best place to apply cups is between the shoulders, and leeches to the upper part of the sternum and root of the trachea.

The next remedy which is to be considered is tartar emetic. That emetics are useful remedies in the treatment of this disease, is a fact established beyond a doubt, by the experience of every Author who has written on this subject, at least those whose treatises I have had an opportunity of examining. In infants attacked with ~~this disease~~ it, the employment of emetics is indispensable; for at this early age, they make no effort to

dislodge and expel the viscid secretion from the larynx, which if not removed, may cause suffocation. Where we use blood letting it is recommended that it should be practiced at the same time or shortly after the emetic has been swallowed. The loss of blood not only assisting the operation of the Emetic, but also lessening the risk of injurious congestion of the vessels of the head, during the straining efforts of vomiting. It is not only desirable to procure vomiting, but also to produce and keep up a state of nausea, and thus to diminish the action of the heart and arteries, and also the quantity of blood circulating in the capillary vessels of the inflamed part. The article which is more particularly adapted to this purpose, than any other is tartar Emetic. That this article has great power over inflammation of the mucous tissues, is a fact which is or ought to be known by all the members of the medical Profession. Another great advantage which it poseses is, that it is almost tasteless when administered in solution. It is generally

administered, in doses of one-fourth or one-third of a grain dissolved in water, every fifteen or twenty minutes until vomiting is produced. When vomiting is thus early induced on the first appearance of the disease, and before it has become fully formed, it frequently repels it, so that no other medicine is subsequently necessary, except something to open the bowels if they be confined, and some nauseating expectorant. The tartar Emetic sometimes acts severely on the bowels; when it does so, it should be combined with a little laudanum. If in the course of the disease the patient should become tolerant of the remedy, we may combine it with ipecacuanha.

After the employment of the above remedies unsuccessfully, we should not hesitate to bring the system under the influence of mercury, and for this purpose calomel should be given in two or three grain doses every two hours, until we have evidence of its affecting the system, by the occurrence of greenish Spinach looking stools, in order to prevent its purging we may

add a few grains of Dover's powder No. one will doubt that Calomel is a very useful adjuvant in the treatment of Croup. Many Physicians of sterling worth and observation seem to rely on it with great confidence, to the exclusion almost of every thing else. But it appears to me, that in as much as our endeavors are directed, either to prevent the formation of the false membrane, or to correct the vitiated tracheal secretion, the conjunction of tartar Emetic with the Calomel in minute doses frequently repeated, might by its alterative effect prove more beneficial than when administered seperately in the manner which I have mentioned when speaking of their employment. When however Symptoms of Sinking come on, such as lividity of the lips, coldness of the surface, and a tendency to stupor, Stimulants and Cordials are the only remedies upon which we can place any reliance. Give burnt brandy, Carbonate of Ammonia, to which we may add Opium, and also give tonics and nourishing diet in order to support the system, with the hope that the false

membrane may be spontaneously loosened and expectorated.

Tracheotomy has been recommended as a last resource, but its dangers are so great, and advantages so few, that in most cases of acute inflammatory croup it had better be let alone. The best of Authors look on it as perfectly useless.

The warm bath is an auxiliary of great efficacy in the treatment of this disease and should always be employed. When used in conjunction with the remedies already mentioned its beneficial effects are often very considerable, more particularly where the skin is hot and dry. Great care should be taken that the child be not exposed to cold during the process.

Blisters are highly recommended by some authors, but others think them of doubtful utility, in the treatment of croup. Rubefacients I think are much more preferable, as their powers are more at command, and they can be renewed whenever they have ceased to

maintain a proper degree of irritation; whereas blisters generally require four or five hours, before their effects can be of any particular avail. Blood letting should always precede the application of rubefacients, when high febrile ~~disease~~ excitement attends the disease.
There are various other remedies, besides those mentioned, which have been recommended in the treatment of this disease, and some have even been extolled as specifics. The most important of these pretended specifics is polygala Seneka. There is no doubt, that this article is beneficial in some cases, and especially for the removal of the dry hoarse cough, and slight difficulty of respiration, which frequently remain after the inflammation has been in a measure subdued. It is generally given in decoction. An ounce of this may be given every hour or two according to the urgency of the symptoms. Should it cause purging a few drops of laudanum may be added. Hepar Sulphuris was at one time highly extolled as a remedy in

this disease, but its reputation was short lived. It would be a waste of time, as well as labor, and be imposing too much on your patience, to examine in detail the various articles, recommended as curative means in this disease.

# Puerperal Fever

An

Inaugural Dissertation

Submitted to the Provost

Regents & Faculty of Physic

Of the

University of Maryland

For the Degree of

Doctor of Medicine

By

Joseph A. Keenan

To My friend

&

Preceptor

Doctor Samuel Chew,

This Thesis is most respectfully

Dedicated

By his Pupil

Joseph H. Keenan.

The termination of my course being at hand, in accordance with long established usage, the first professional pay of my pen is demanded by the Institution, under the fostering care of whose Professors my mind has been awakened to the bright truths and unspeakable benefits of the noble science of Medicine. Sensible of the overwhelming gratitude due to my preceptors in general, I cannot refrain from giving it expression here; and aware of the immense debt due to him under whose care and instruction I have been more particularly placed, and from whose mind my own hath caught a gleam of knowledge that emboldens it to go fearlessly forth into the arena, and contend in the cause of suffering humanity, I would fain dedicate this my first pay to him trusting he will regard it, as it is, the emanation of heart full to overflow of gratitude for his unwearied kindness and attention.

The theme of my Thesis is Puerperal fever; there is perhaps no disease in the whole catalogue of those to which humanity

is subject which excites more than this, the deep felt interest of the Physician for the fate of his suffering patient; On the one hand he beholds the Mother of a new born child writhing in agony, whose intensity is increased by the bitter thought of separating from it; on the other, the tender infant and the despairing Father he feels that he himself is regarded as the only succor to which their sinking hopes and happiness may cling. Oh how does he call up from the inmost recesses of his mind all the power that study and reflection can yield, that he may snatch the unfortunate victim from death and restore her once more to her husband and helpless babe.

This disease, though known and treated by the ancients, seemed not to attract the attention which its importance demanded, until about the seventeenth century, when the malignant epidemic, occurring in the wards of the Hotel Dieu, opened the eyes of the profession to its importance; since that

period it has formed one of the most sacred subjects for the study and reflection of the Physician. Though much in the advance of our forefathers there still exist many conflicting opinions as to its treatment and nature; these we fondly hope time and study will happily harmonize. The scenge of the Puerperal woman generally announces itself with coldness and shivering differing in intensity, followed by severe pain in the head particularly over the eyes, with flushed face, great anxiety, noise in the ears, and restlessness, as the disease advances the abdomen becomes extremely painful and sore, her breathing becomes short and laborious; the lochia are either stopped or partly so in quantity and colour; the urine becomes scanty and high coloured, is voided with difficulty and pain; skin hot and dry; the pulse in the beginning is full and hard, beating from one hundred to one hundred and twenty a minute; there is great prostration of strength and depression of spirits,

with perfect indifference to the objects that once
delighted and amused, There is sometimes great
tenderness of the Epigastrium, the patient being
unable to retain the smallest quantity of food,
joined with vomiting of a dark fetid matter,
the tongue is red sometimes coated with a slight
brownish hue, If the fever commence its
attack before the secretion of the mam=
mary gland, its function is suppressed; if
after, the breasts become flaccid and the
secretion disappears.

Diarrhoea is often an attendant, partic=
ularly when the abdomen has been much dis=
tended, and if energetic means are not used
at this period it quickly takes on a malignant
Typhoid type particularly in Hospitals
and when the atmosphere is filled with contagious
Sordes appearing on the tongue and about the
gums; the Stools are dark fetid and pass
off involuntarily, and according to some au=
thors the rose colored spot, with stupor, is
well marked. These symptoms are varied,
according to the constitution of the patient,
the severity of the individual case and the

character of the reigning epidemic.

Diagnosis by attention, is generally easy, It may be distinguished from after pains, by the intervals of ease, which always attend these last, and by the absence of fever and abdominal tension; whereas in the former there is fever, with great soreness, swelling of the abdomen, and an almost uninterrupted continuance of pain throughout the whole course of the disease. Many circumstances exhibit a dissimularity between this and Miliary fevers, not withstanding oppression and anxiety are common to both.

In the puerperal the rigor is more violent, of longer duration and not interupted, as in the other, The pulse at first is fuller and stronger, the skin hotter and the tongue, whether moist or dry, though generally the latter, is not of a white, but brownish appearance, differing in this respect from most inflammatory affections. Some have drawn a distinction between puerperal fever & peritonitis; but in my humble opinion, this distinction is

unnecessary. Peritonitis, supervening on delivery, may always be considered puerperal Fever, because the former cannot exist without fever, the latter without peritonitis more or less severe.

Prognosis always grave; the fever is sometimes so violent as to destroy the patient in a space varying from twenty four to fourty eight hours. Should the disease come on late after delivery the patients chances are much greater for a happy recovery; but even in cases seemingly most favorable we should be much on our guard, as the disease is very delusive in its remissions.

Upon the reappearance of the lochia, and a gradual subsidence of the abdominal tensions and soreness, the pulse at the same time becoming slower, eyes losing their wildness, and the patients tranquility returning, we may venture to inspire her friends with hope.

But if on the contrary the swelling of the abdomen increase, with tympanites sudden cessation of pains, irregularity

in the pulse, coldness of the extremities, clammy perspiration over the body, frequent dark and fetid stools with tendency to coma, it may be considered as the knell summoning your unhappy patient to the land of Spirits.

## Post Mortem Appearances

according to the best authorities are inflammation of the peritoneum and its productions the omentum, mesentary and mesocolon; There is generally pus and extravasated ~~matter~~ in the cavity of the abdomen; the uterus is often found distended and inflamed; the intestines filled with air, and coagulable lymph every where covering them; Considerable suppuration is occasionably found in the membrains of the brain, The lungs, bronchial tubes and pleura have occasionally been found affected.

**Causes.** With all deference to the opinions of the great and learned of the profession who have with much industry and tact, contended that it is non contagious, I must dis-

sent maintaining it to be the first and greatest cause. The physicians hand in his examination per vagina doubtless become impregnated, and, that virus may be retained, is a fact known to every Student of Medicine, who has ever performed a post mortem examination or dissected a body, from the fact of the smell remaining on the hand after a well timed ablution; and as it is well known that warmth and moisture facilitate absorption, we may justly contend, that the practitioner conveys in this way the contagion to the next puerperal Patient by her fluids in his examination, absorbing the virus, or by his clothes radiating the atmosphere of infection, with which they become charged in the last lying in Chamber. For proof of ~~which~~ this fact, I present the names of Gordon, Armistrong and Lee and by my observations in our own (beautiful) City (which gives graves to its invaders and monuments to its defenders) in the practice of a physician, who stands among the shining lights of the profession

in America, who lost six or eight patients with this fever in succession, whilst others, having large obstetrical practice, lost none. This gentleman, though a non-contagionist, left our city to recreate in the more congenial air of the Country, returned, resumed his practice, and lost no more patients with this fever: this to my mind is a conclusive evidence that it is contagious.

It is also epidemic, as proved by what has occured in Aberdine, Leeds and other places. It may also occur from portions of the placenta remaining in the uterus; also from difficult labors; cold, or imprudently getting up too soon; anxiety of mind, has sometimes also been considered a cause and many other things concerning which there is much dispute.

Prevention- When puerperal fever is epidemical, the accoucheur should make it a point of duty, to have the apartment of the woman, whom he is engaged to attend, properly cleaned and ventilated before

confinement; to prevent nurses and other persons, who have been with those affected, from waiting upon, or going near any patient about to be delivered; to pay the most scrupulous regard to the cleanliness of his own person, using daily ablutions of the whole body, and frequent changes of linen and dress. Anxiety of mind should be quieted, if puerperal fever should be prevalent, the practitioner should summon all his address to inspire his apprehensive patient with a complete confidence in his powers of prevention. Sedentary employments, stimulating diet, fashionable, dissipated night watchings and irregular habits should be avoided, as they seem to be predisposing causes, the bowels should also be kept open.

Treatment. It is a self evident fact that the treatment pursued in puerperal fever admits of much diversity. I contend that it is always inflam-

inating in the commencing stage, no matter from what cause arising. If called then to a patient in this stage, I would set her up in bed and bleed her to the amount of twenty ounces; if this did not cause a cessation of pain, I would order from thirty to sixty Leeches over the abdomen; the bleeding to be kept up by a mush poultice, if tenderness did not exist to a great extent; if it on the contrary, did exist; flannels wrung out of warm water and applied over the abdomen, should be followed by brisk purging, with an occasional enema. Blue mass and opium should be administered in small quantities every two hours until the patients gums become affected, The patient should be often sponged during the day. If head symptoms occur shaving of the head with cups to the back of the neck and applications of cold should be resorted to. If called to a case assuming a malignant form of the disease, I would be very cautious in the use

of the lancet, using mild purgatives such as Oil Ricini. And Local bleeding should then be resorted to if the pain was severe. Hot fomentations and powerful stimulants & Opiates at night.

I have objections to blisters in this disease because they produce more or less bad consequences, and meet accidents as they present themselves.

A An

Inaugural Dissertation

On

Hydrocyanic Acid, its uses and effects

when taken in the Examination

of the

Board of Regents and Faculty of Physic

of the

University of Maryland

for the degree of Doctor of Medicine

by

William J. McPherson Jr.

of Baltimore Maryland

1845

An
Inaugural Dissertation
On
Hydrargyrum, its use and abuse,
Submitted to the Examination
of the
Provost, Regents and Faculty of Physick
of the
University of Maryland
for the degree of Doctor of Medicine
by
William S. McPherson Jr.
of Baltimore, Maryland
1848.

Hy

# Hydrargyrum its use and abuse.

"Sequiturque Patrem non Passibus Aequis" (Virg. Aen. ij 742)

In the Selection I have made for this dissertation, it may be well to premise that I have no desire to Startle with discovery, little ambition to be brilliant, and less Pretension to the merit or Perhaps objection of having faithfully described, what Research, Experience and Skill have left as yet unresolved: I have Chosen Mercury not merely from its important agency in Medicine, and acknowledged virtues, but also from a desire to Evince to some Extent the high Esteem I entertain for the present able occupant of the Therapeutic Chair, as well as from the sincere belief that the "proofs of injury from wrong or Excessive use, even if more numerous than they are, ought not to affect its Character as a remedy". I have still fresh in memory that pointed interrogatory of the pastoral poet, quo te pedes? quo via ducit? and the query though directed to a totally different end, may not be irrelevant to my purpose, and Especially to this precursory Portion of my Subject:— There are Contrary and Contiguous "Roads" and the true one to an Inaugural thesis is to Say the least of it not very Eligible; it appears to me to lie midway between Speculation & its allurements and the bounded antique territories of which the fathers in the Profession may justly Say "Haec mea Sunt": To mistake the former, were to run headlong into Error, peril & Contradiction, whilst Confinement to the latter Comprehends but the twilight of Medicine and may not Escape the Criminality of falseness—

I shall therefore endeavour to pursue a course between, avoiding on the one side inquiries which have no practical utility in our Science, and shunning on the other tedious wanderings into those fields of facts in other times, influenced as nowadays by "numerical methods and averages" and based upon faulty or fanciful observations.
In the Complexity of Phenomena connected with Medical Science says an Eminent writer, it is clear that there is a middle course to which the practitioner may adhere in the pursuit of his calling, and the beginner may follow amidst the difficulties besetting his judgement and his conduct.
The best augury for success in an Essay is the spirit to develope the intricacies of Authors, the surest mode to correctness is to rely on the conclusions, if such there be, of the intelligent and Experienced and the burden of the task is to elicit profitable and reliable information from the "abortions of theories" which crowd

the starting point of the wide spread area of its employment: Chemistry has been fortunate in the development of its various forms, and the encouraging revelations of modern investigation confirm its remedial influence and serve the twofold purpose of modifying its exhibition and enhancing its indispensable usefulness—: We have in truth to regret the world-wide diffusion of its virtues, for Empiricism has flourished by its unfortunate agency & the nostrums of Quackery have triumphed in public patronage

* Vide Bastons Cullen Vol ij Cap. Sialagogu - 307 -

It would be strange indeed if we could discover in the "good old men", whose knowledge was hemmed in by the imperfect drawings of truth, & in whose days Medicine numbered many terra incognita, no diversity of opinion, and fairy visions as to the nature & Operation of Mercury, when a backward glance into generations gone will perceive the labour of genius expended upon erroneous ramblings & wild theories, fancy's brilliant fabrics, whose ingenious deductions have been wholly discarded or "shorn very materially of their fair Proportions". We do not look in vain amongst the volumes of false Conception, and "Splendid Errors" for hypotheses demonstrating our argent, the Idea of Medical madness & trouble has furnished bellows to draw it into the maelstrom of Perplexity, and Even modern disciples have failed to escape the Extensive Contamination, and have added their researches and their Eloquence to the countless incongruities in Exposition of the Phenomena and Modus Operandi of Mercury —

* Cullen after refuting the doctrine which Comprehended the mere mechanical agency of Mercury, its Specific gravity, after dwelling upon its stimulant effect upon every Sensible and moving fibre of the living body; after telling us that the Common Opinion of Mercury's diminishing the Consistence and increasing the fluidity of the blood, has been Substantiated by no Evidence or Proof; after the Creditable

* Vide Hunter on Venereal disease, & Adams Morb. Points –

† Vide Murray Mat. Med. Art. Mor. & Per. Med.

* Vid. Chapman's Therapeutics & Mat. Med. Art. Mor. & Op. Med –

affirmation that Mercury may be determined by the nature of the preparation employed to pass off by one Excretory rather than another, after Conceding its antivenereal powers to universal Poison, Expresses a Conjecture as to its mode of action scarcely, less frivolous, viz its disposition to unite with ammoniacal salts, and the tendency of these to pass off by the Salivary glands rather than by other Excretory organs.

The succeeding System of Brown whose Practice admitted but the Principle of brandy in one hand, and the lancet in the other, Entirely to Mercury no Place in his absolute Category of
* Remedies Comprised of Stimulants alone: Hunter brought to the Exposition of the efficacy of Mercury his ingenious theory of the incompatibility of morbid actions &c.

Even as to its absorption, there has been eager Controversy.
† Murray who took more ably than many Contemporaries positively affirmed its reception into the Circulation; to which Established statement we find an opponent in the distinguished
* Professor who holds the Chair of Practice in the University of Pa. who Characterizes the above a "relict of humoral Pathology" storms its fortifications with the artillery of his Eloquence and substitutes his own beautiful though untenable theory of the "Mercurius of Sympathy": Now that Murray was correct so far, none will deny, but he must fain bring another hypothesis for its union with Phosphoric acid, obstructing its discharge

with the urine, and causing it to pass by the Salivary glands
Thus we have many methods & hypotheses to account for the ac
tion of Mercury: to pursue the subject further would be to
wander that part of our territory which pertains most es-
pecially to the Science and can be of little use in the Practice
of our art, i.e. we should find hypotheses as to the nature
of the influence exercised by mercury over the organism*, com
plex and confusing: Now the following facts are settled
beyond Controversy and their validity at least forms a dis
tinct and decided limit of things Proven in regard to our agent
1st The absorption of mercury from having been detected in the
blood, Saliva, Perspiration &c.
2nd That the Constitutional Effects are Consequent to this
absorption, for Mercurials affect the System to whatever part
they be applied; their action is assisted by bloodletting and Ca-
thartics (means which certainly promote absorption) and when
ever they (Mercurials) produce Purging they rarely affect the
general System —
So much for the theory & Modus Operandi, next we Proceed to
that branch of our subject, which will be oftener in requisition
and more serviceable, when we have left these halls viz the
Methodus medendi and Medicinal Properties of Mercury —
It is a source of astonishment, that no matter by what proximate
intermediate, or direct Cause the effects of Mercury were and are

* Vide Latham on the heart Lec. XIV - P. 130 -

brought about, the constitutional Phenomena, ascribed by older writers though not uniform were similar, and though incomplete were not incorrect, the Laxative Power of the Protochloride, its alterative Efficacy, its agency in Venereal, its hydragogue Properties were known and appreciated by our Ancestors and the illustrious Rush led the way in the application of this heroic agent to the management of the fevers of our Country: these virtues we acknowledge and exert now, and the Experience of time has added to their Character "Confirmation Strong as Proof from holy Writ": much more has been accomplished by the discovery of the Mercurial influence of mercury over inflammation, and its consequent arrangement in the Antiphlogistic Regimen; the suggestion of new remedies in the treatment of inflammatory diseases is of Primary importance and Mercury has gained a triumph over Cable opposition, its virtues are now completely ascertained and the demonstrative Evidence of its Efficacy in Iritis Established its utility, by analogy, in all inflammations of thoracic viscera & membranes, as conclusively as any Point in Medicine Can be Proven, and miss for it the rare if not exclusive distinction of being not only Remedial to check the destructive progress of inflammation, but in restoring to primitive Sanity, Structure & function organs oppressed & disfigured by accumulation of lymph or drowning in the deluge of effused serum—

* Braithwaites Retrospect, art Bile — Dr Robert Dick
Ibid Hillard's med. notes, Ibid Watson —

An Explanation of the Curative power of mercury in inflammation is drawn from this fact: that it Equalizes the Circulation, Causing the blood to be distributed in larger quantity than common upon several surfaces at the same time it obviates pro tanto, it obviates, Excessive accumulation or Congestion in any one organ: Another effect of mercury seems to be the stimulation of all secement glands: In all liklihood says an Eminent Physician it operates with as much energy on the pancreas, the follicles of Lieberkuhn and the glands of Peyer and Brunner as on the liver: ~~In~~ the last named gland however from the quantity, color and activity of its secretion, betrays more readily and unequivocally than the others the influence of any foreign agent: Mercury appears to act in two ways ~~locally~~ upon the liver, locally if we may so Express our selves as a simple purgative: Systematically as a general stimulant conveyed to the organ by the circulation:

The Superior Cholagogue Properties of mercury are often attributable to its power of detaching or Softening the viscid mucous secretion, which occasionally Produces occlusion of the orifice of the Ductus Communis, and ~~that~~ by so doing mercury Causes a discharge of bile into the intestine which was only prevented by the mechanical obstruction: Now this seems highly probable for Certain it is that the Duodenum is often founded coated with thick tenacious mucus—

Again the mucous membrane of the Stomach & Duodenum may become vascularly congested in consequence of irritation from disease, from excessive food and drink, the membrane becomes tumefied and may partially or entirely close the orifice of the duct; in this condition of things Mercury acts by taking off the local congestion of the inner duodenal membrane and by this means relieves the pent up bile; as is evinced by reduction of the enlarged liver, and by copious bilious stools. Mercury also effects changes in the blood; by its use the coagulability of the blood is diminished, and the proportion of fibrin to serum becomes smaller: Andral in his Essay on Blood in Disease, cites four cases in which the fibrin was increased by the use of mercury: in three there was no affection before the Stomatitis, the fourth Patient was bled for pneumonia and his blood exhibited 3.5 of fibrine, upon Salivation a few days after the fibrine rose to 6.6: He writes it has been asserted again and again, that one of the Effects of Mercury introduced into the System is to bring about a dissolution of the blood incompatible with increase of fibrine, it is possible that this may take place after a prolonged use of it, but assuredly this is not the case soon after its first exhibition; how Andral may be, & most probably is correct, at any rate it is ascertained that upon the occurrence of Salivation, the blood assumes an inflammatory

inflammatory crust, and yet we Exhibit, after the fashion of Homœopathy this agent in inflammatory disease, perhaps the degree of Profuseness of the Ptyalism may modify this result, or Perhaps again there is not wanting in the history of Remedies some agent whose Effects are analagous, I have seen no Explanation and my belief is that as yet we are without one, We know that persistence in the use of Mercury with "blanch as white as a lily" proving beyond doubt the diminution in the number of red globules.

Thus we have in Mercury, besides its Sialagogue Properties, a Cathartic, alterative, antiphlogistic, reparatory agent, and also Stimulant and Sedative: mild or active Cathartic according to the quantity of Preparation used, alterative by subverting diseased action and substituting its own, Antiphlogistic by rendering the blood more watery, & diminishing its fibrine & red globules, reparatory by checking effusion of lymph and Promoting absorption of that effused: Sedative by its depletory agency and the Established Control it exerts over Gastric irritability with retching & Vomiting: It may be questioned
* whether Mercury is a Stimulant or Sedative, for if it be a Stimulant it admirably differs from all other agents known by that name; and on the other hand if it be a Sedative diseases to be benefitted by its administration must be of Phlogistic or Sthenic character

Rest the application of their medical properties to the treatment of diseases; We rarely give Mercury alone as a Cathartic, it is very generally combined, We Exhibit it to promote the secretions of the intestines and liver, as an anthelmintic & to produce Counter irritation in Diseases of the head & Skin —

As an alterative We use Mercurials in Dyspepsia, Gout Chronic Cutaneous diseases, & more Especially in Venereal —

We Exhibit by virtue of its antiphlogistic properties, whether inflammation in any part of the body & it proves of signal service in inflammation of serous membranes, hence its Eminent utility in Meningitis, pleuritis, Pericarditis &c —

We resort to its derivative virtues in Yellow fever to suppress diarrhoea, in acute Gastritis & Especially of infants and in Cholera to allay vomiting &c

As a Sialagogue we resort to it in Chronic diseases of viscera arising from or Connected with inflammation, and its Control over nervous affections has been found efficacious in tetanus, Epilepsy, Hysteria &c —

In short it has been Exhibited with various success, in a vast majority of all the "ills to which flesh is heir to" from a "toothache to apoplexy"

* Prof. Chew – lecture 2nd Febr. inst

† Ibid ℔

I have thus passed in a cursory manner the medical Properties of Mercury, I propose next to speak of illeffects consequent upon its Exhibition, and the manner of its abuse.
The most common illeffect of mercury and the one generally if not universally precursory to others more serious and dangerous to the Patient and a portion to the Physicians reputation consists in Salivation, with its concomitant ills.—
Why mercury should excite Ptyalism is as yet unexplained, I have in a former place written of the curious theories adduced to illumine this Phenomenon, "Causa latet, vis est notissima", there is no other Explanation necessary than the one which is brought to very many of the medical agents viz that Elective attraction possessed by particular organs for Specific remedial substances. Excessive Salivation may arise either from the use of mercury in undue quantities or from idiosyncrasy; the latter rare and generally avoidable incurs at least the penalty of obstinate misdirection, the former too frequent, is never needful and always obnoxious to the objection of being the offspring of flagrant malpractice—
I believe I shall carry to my grave the excellent injunctions I have received in the Wards of the Infirmary "that pints of Saliva, with ulcered glands & gums are not needful to attest the certainty of mercurial influence", "that mercury is a remedy of great utility and a portion of Considerable virulence"

* Prof. Power - Clinic lectures

* "That you cannot salivate without exciting inflammation to some extent": There is in my opinion but one of two reasons justifying or excusing the occurrence of Ptyalism, the one successive to untold facility & susceptibility of Patient, the other comprehends intensity of disease & extreme imminence of death.

Of the Symptoms of Ptyalism I may forbear to speak particularly, tumefaction, tenderness and inflammation of the Salivary glands are chief, with remarkable fetor of breath Et cet

Of the Treatment I may enumerate strict prohibition of Exposure to cold, purgatives and Opium, astringent gargles, alum and Sulph. Cupri in solution, but Especially the following used in Prof. Chens practice and confirmed signally in the wards of the Infirmary in one or two cases since my appointment there, (not be it remembered contracted there but a token of other medical skill) ℞, Ol. Terebinthinæ ℥ij - Acac. Gum. ℥ij to Aquæ ℥viij make a gargle; or as advised by Prof Power and very highly commended Muriatic Acid diluted to suit the case - ℥j to ℥j —

There is another disease which has origin in the improper or adjudicated Exposure to mercurial vapours in the mechanical arts and in mining, and which though grievous enough has at least the consolation of being attached to no indiscretion ~~on~~ the part of the practitioner, but rather to want of cleanliness in persons so necessitated, or so —

-worthily employed; it may be well to caution these latter to avoid swallowing a portion of mercury, oxygenated or in the metallic state, with their dinners and the simplest preventive and one readily attained is water and soap; there is no obligation if there were opportunities to alleviate the risk of convicts, but they at least have the satisfaction of placing in our hands an agent mighty for "good or for evil".

To enumerate other illeffects of mercury more or less frequent & some in a long practice rarely or never seen, I may write mercurial fever, Erethismus mercurialis, Diarrhoea mercurialis frothy, white tough evacuations, referred to an affection of the pancreas analagous to that of the salivary glands, next enlargement of glands not unfrequent, conversion of venereal sores into sloughing ulcers; neuralgic affections, to wit Nemor mercurialis, Asthma mercurialis, Amaurosis mercurialis, all occurring to gilders, miners, barometer-makers and the workmen concerned in the manufactory of that less useful appendage, the looking-glass—: Again the more common mercurial cachexia, and certain cutaneous eruptions, there being many of these latter ascribed, some doubtful as to existence, or legitimate descent from mercury, others more certain as to parentage but less frequent in occurrence, and others still, imaginary or at best so miliary as to be visible and occurring to two observers alone.

* Vide Druitt – 115 P.

Near dyspepsia –

Another illeffect of mercury to which I heartily give place is the following: a very large portion of what is regarded and
* treated as Scrofulous disease in this part of our Country, appears to be merely the result of indiscreet mercurialization, under the prevalent idea that biliary derangements either Constitute or Coexist with every departure from health some form of mercury is administered in almost every prescription, and the whole Capillary System of persons who happen to be occassionally unwell soon becomes impregnated and poisoned by this subtile mineral —: So too if an alteration impression be desired under any morbid Condition whatever instead of Employing Regimen, diet and more harmless medicaments, it is Common to resort indiscriminately to mercurial agents:
The Consequence of such reckless medication present themselves
to the Physician in* dyeptic affections, Chronic headaches, pains in the limbs Called Rheumatic &c — And to the Surgeon in the more striking forms of alveolar absorption and adhesion, inveterate ulcerations of the fauces & nostrils where no specific taint had been suspected, and in various degenerations malignant or semi-malignant of glandular organs.
I have thus Concluded in a manner not very Concise, nor novel, nor brilliant many of the interesting Characteristics and properties, phenomena and therapeutic application of

mercury. I may next make allusion to the rules which appear to obtain in its Exhibition and prohibition.

Watson writes Mercury is likely to be + ~~beneficial~~ in those forms + hurtful of disease, where the morbid action approximates its own action, Specyfying Erysipelatous inflammation having a disposition to gangrene, Scrofulous diseases and inflammatory Complaints attended with general debility and an irritable Condition of the nervous System or tendency to take on a typhoid Character; Again he says when the Scrofulous diathesis is well marked, you should be Cautious in giving mercury at any time, but I am Certain that many are too Scrupulous in this respect, and that through over-tenderness for your patients Constitution, you may risk his life by withholding mercury because he shows tokens of Scrofula

The distinguished Surgeon Druitt to whose book I am Especially attached gives a Caution as to the use of mercury after his Clear and Comprehensive Style, both Sage and truthful and worthy of remembrance: And I need scarcely write that I have often heard and witnessed in the lecture room and in the practice of ~~the~~ our distinguished Professor of Surgery Similar advice and Equivalent precautions, and I may here advert to the fact, that in his department the Iodide of Potass. has to some Extent superseded Mercury

In Scrofulous diathesis mercury says Prof. Chew is useless at best, sometimes pernicious, with the exception that we may find acute inflammation suddenly lit up & here the constitution for the time lays aside its Scrofulous disposition, and all its vigor is directed to the local and more active disease E. g. peritonitis, arachnitis &c - here forbearance to resort to mercury is attended with imminent danger to patient and Scrofulous tokens, no Contraindication;: Again Experience has proven says Prof Power that mercury of all medicines is the worst we can use in tubercular disease, here instead of promoting absorption as Dr Rush thought it has the destructive effect of hastening their softening.

So much for mercury in Scrofulous habits, I need not again advert to its use in inflammation of parenchymatous organs except to mention the assertion of Dr Wilson Phillip, who confines its value in hepatitis to the chronic form and errs not a little in the assertion that the more acute the disease the ~~xxx~~ more is to be expected from the Cathartic effects and the less from the Constitutional:

I have subjoined Dr Farre's rules for the Exhibition of mercury

1 Never to give mercury when there is an idiosyncrasy against it -

2 Mercury should be used in all active congestions, - pyrexia, phlogosis, phlegmon, opthalmia, strabismus

, Cynanche laryngea, Cynanche trachealis, pneumonia and all inflammatory diseases. In the adhesive Stages of dysentery, in the phlegmasiæ, where there is inflammation with power, in tetanus, hemiplegia, paraplegia, neuralgia, in their States of active congestion

3 Mercury is hurtful or doubtful in the malignant or asthenic forms of Pyrexia, where there is low delirium: but in Phrenitis and in that peculiar form, the Coup de Soleil, it is most effectual. It is hurtful in tetanus from punctured wound and in all Cases of irritable diseases &c In idiopathic iritis it is as effectual as bark in ague, but in the traumatic it is injurious as it interferes with the closing of the vessels by adhesive inflammation hence in all hemorrhage where the orifices of vessels require to be closed it is hurtful. In the hemiplegia of infants, in asthenic paraplegia, in the neuralgia of irritation it is bad.

It is hurtful in the inveterate forms of Scrofulous Opthalmia though useful in the early Stage, it is bad in the Anæmoia of depletion. It is useful in puerperal Peritonitis and hurtful in the typhoid form of it: as also in the ulcerative Stage of dysentery. In general, it is doubtful in the Suppurative Stages of inflammation, and in all Erysepelatous and Erythematous inflammations, or those tending to gangrene. It is hurtful in all Cases of pure asthenia, from deficiency of red blood.

* abnormally excepted, who cured a fractured arm with Hydrag. mass.

I will before bringing this Subject to a Close to Express my disapprobation of the great Celebrity and indiscriminate use of Mercury as witnessed daily in our midst and of Course Enjoined by practitioners of modern times who fail apparently to keep pace with the profession and who negligently persist in that System, of blue pill, "baling the liver" "breaking the fever" and often with it the Constitution of their patient for which the late occupant of the Chair of practice was so unenviably remarkable: I am of Opinion that their "biliary derangement" is often imaginary as their practice is prejudicial and uncalled for, and in Support of this Opinion reference may be had not only to* English authority, in whose County Remittent is rare, but the work of Dr Wood will lessen the Exhibition and value of this heroic panacea, will have the Effect at least to induce its measurement in Scales, not with the Ever ready Spatula, will Either bring the Conviction of Error to the Consciences of such medical men, or Confirm them in their obstinate hardihood.

Mercury has been deemed prophylactic as well as the Certain Cure for Remittent fever, to disprove the former is to assert the Creditable Contraction of Remittent, Synchronous with the mercurial influence for the mitigation of venereal disease and Modern Experience will so far modify the latter as to restrict its application, to the disease

when attended with biliary disorder, complicated with local determination or inflammation in particular organs. To correct the morbid condition of the liver, skin and alimentary canal, constitutes says Dr Eberle the chief part of the treatment of this malady and for this purpose a powder containing grs ij of the protochloride is to be taken every two or three hours, this I conceive rather more active than necessary, and modify by the following Extract from the Cyclop. Prac. Med. Mercury is of use as a purgative and as a means of correcting the morbid secretions and condition of the intestinal canal and the organs associates with it, but the attempt to supersede the febrile action in remittent by bringing on that of mercury we have never been successful. It is true that on the subsidence of the fever, ptyalism takes place and is often exceedingly injurious to the patient, but there is never reason to think it instrumental in producing convalescence. Watson on the contrary never saw with but one exception (neutral) a single case in which the mercurial soremouth was not immediately attended with "decided improvement": I trust I will not be thought to doubt the utility of the remedy in this malady, I merely wish to discountenance by, I might with propriety my abhorrence of the extravagant employment of it in our climate and especially in our State and

I cannot do better than refer to Dr Wood's work, whose views are not to be despised, and by whose directions I shall be governed hereafter in the treatment of this fever, from a sincere conviction that they are correct, and their coincidence beyond controversy with what I witnessed during the past summer in the practice at the Infirmary:

Mercury says Dr Wood has enjoyed a very high and merited reputation in this disease; It has been frequently observed that few patients die of bilious fever whose systems have been brought under its influence. The reply indeed has been made to this argument in its favour, that those cases only are susceptible to the action of mercury, which can be cured by other means or would get well spontaneously: but this is obviously assumption, nor is the statement true: In cases which run their course in a few days, it is sometimes impossible to bring the system under merc. influence, but these are by no means the only dangerous cases, nor indeed the majority of them.

Again It is not necessary to give mercury in all cases of bilious fever. The great majority of cases will do well without it. The immense quantities in which it has sometimes been employed are altogether unnecessary. A certain amount can find access into the system from the alimentary canal and the rest is either inert, or only a source of irritation.

From grss to grs ij may be given every one, two or three hours

according to urgency of Symptoms & Susceptibility of Patient.
Let not those, he adds, who are accustomed to larger doses, or
Enormous ones Smile at those here mentioned. Let them
first try even the smallest dose, in a Sufficient Number
of Cases, and determine from the Results of their Experience
, whether it may not be Sufficient.
I have thus omitted to write very much that is pertinent to
my Subject and yet have written as many pages as will
prove tiresome and tedious to those who may be disposed, or feel
obligated to read them; to any who have followed the foregoing
lines I am happy to appprize them that "Here" the End of "the
Scroll, the Continent and Summary of my fortune"
To Professor Chew, I may say that I regret the defects of
this Essay from the imperfect implicites upon his thorough me-
thod of imparting instruction and the lack of due improvement
and benefit manifested herein, for his able advice and ever ready
assistance I acknowledge my great indebtedness, for these and
the kind feeling I entertain for him personally I must beg
permission to write "magis amorem donantis, quam donum
Amantis, Considera" & Subscribe myself with high Esteem

His Obliged Pupil

Wm Glenn

# An
# Inaugural Dissertation
# On
# Phthisis Pulmonalis:
Submitted to the examination
Of
The Provost, Regents, & Faculty of Physic,
Of
The University of Maryland,
For
The Degree of Doctor of Medicine.
By
Thomas. J. Cabaniss
Of
Surry County
Virginia.

1848

3

An Inaugural Dissertation

On

Diphtheria:

Submitted to the examination

of

The Honorable Board of Physic

of

The University of Maryland,

for

The Degree of Doctor of Medicine

By

Henry Thornton Harrington.

1878

# Thesis Testimonials.

To
The Honorable Arch: Atkinson
My
Friend and Patron,
This
Thesis is dedicated, as a small and
faint testimonial of the many favors,
which he has bestowed upon me; and
for which, I owe him eternal gratitude.
The Author

To
The Faculty of the University of Maryland
This
Thesis is dedicated, as an acknowledgement
of my obligations to the different members.
The author.

# Phthisis Pulmonalis.

In writing a Thesis on this disease, it is not with any hope or expectation, on my part, of saying any thing more than is al=ready known of it; or, indeed, to say one word about it that has not been said by those who have studied the disease a lifetime, and made public the result of their labors and investi=gations, as to its history, as relating to its cause, treatment &c.

This disease has existed, so far as we are able to learn from the oldest authors whose works are now extant, from time immemorial to the present. And there is every reason to believe that it will last as long as there are any whom it can attack. Our cause for regret, is; that though this malady has been so long known to exist, we have never learned enough about it, to be able to cure it. Tis said that "rheumatism is the Opprobrium of medicine." I wish that it was the only disease to which that expres=sion is applicable, but in the one now under

consideration, we cannot find language that will convey a just idea of its impregnability to the power of medicine. There has been more time expended in acquiring a proper Knowledge of Phthisis; and that too by the most scientific and talented men who ever engaged in the medical profession, than any other disease of which we have any idea, and yet there is a great deal to be found out respecting it now. In fact, that which we all desire most: the treatment: though it is better understood now than it ever has been, is still far, very far from being satisfactory; but I have no doubt that there will be found, in the rapid progress of medicine, as she explores the bowels of the earth, the sea, and the fruits of the earth, aided by chemistry, some remedy which can so far lessens the mortality of phthisis, as to make it as amenable to the Physician, as many of the diseases which they cure now. No man but Jenner thought that some means might be found out, by which small pox might be prevented; and a cure for the disease which

we are now speaking of, certainly it should not be thought impossible, after such a signal triumph of medicine over popular prejudices and difficulties, which to any man but the illustrious one just spoken of, may have seemed insurmountable.

We should not expect to be succesful in the treating of a disease until we are acquainted with its causes, remote and direct. And as this knowledge is the more useful as a disease is the more formidable, it could not be studied with more advantage to the physician, and good to the patient, in any disease than this.

The first question, then, which we will consider, is the cause of phthisis.

The great and primary cause is beyond the shadow of doubt hereditary. In this assertion we are supported by the best authorities in medicine; and indeed, it seems strange that any one should doubt it, yet there have been, and there are physicians who do doubt the existena of an hereditary tendency to consumption.

We see it run a regular course from parent to child for many generations; though what is a remarkable feature in it, and one proof of its strong affinity for those of a family in which it has once been fixed, is: that it will sometimes jump from a parent to a grand-child and entirely escaping the intermediate parent. Sometimes it even lies dormant for several generations, and the offsprings of the "consumptive family" will flatter themselves with the hope that they have entirely escaped the danger; but this hope is too often vain, for the dreaded predisposition which has been in their bosoms all the time, is by some exciting cause awakened from his sleep, and awakens to destroy. I wish that the proof of this was doubtful enough for it to be necessary that cases should be cited, but this cannot be, unhappily, and I will not attempt to prove that which has the light of truth shining in its face.

We will consider, then, the primary cause of phthisis as hereditary; and next to this comes

those causes which are considered predis=
posing, besides that of inheritance.

Predisposing causes.

All things which are the cause of debility hasten the development of phthisis; and there are many such, but I will mention those only which seem to me the most important, and most frequent.

Next to inheritance, cold is perhaps the most common predisposing, as well, indeed, as the exciting cause of this disease. A continuance of intense cold will wear the strength out in the endeavors which the system makes to bear up against it, as effectually as hard bodily or mental labor, and thus it acts as a cause of consumption. Onenism, excessive venery, great fatigue daily, confinement in illventilated places, distress, either that occasioned by grief or remorse, bad and unnutritious food, and sendantary habits, are all predisposing causes of this disease. I have heard it remarked that a large portion of the ~~convicts~~ convicts in the Virginia penitentiary, who die, die of phthis

=is. Here we have many of the causes act=
ing together, and it would be strange, if the
diathesis existed in any of these criminals,
and the malady did not show itself.

Exciting Causes.

Cold, by producing certain
effects is also the most frequent exciting
cause of phthisis. By it bronchitis, pneumo=
nia and catarrh are brought on, and they
by exciting the arterial system, so far at least
as it connected with the lungs, cause a greater
afflux of blood in those organs, than ought to
be there. What would be, comparatively, harm=
less to those who have not the tuberculous di=
athesis, would be imminently dangerous to
those who are so constituted. "What would
be organizable fibrin, or a product amenable to
the vital process of absorption in some persons
becomes in phthisical persons the matter of
tubercles." Particular occupations have a
great influence in exciting this disease to
life. That of stone cutters, of men or women
employed in cotton factories where they inhale

particles of the raw material; of instrument grinders, needle pointers &c. Inhalations of acrid gases or of great air of a high temperature; of steam &c. All of these do mischief by bringing on bronchitis, or, excessive irritation in the air passages. Mercury is said to be one of the most certain causes; and there is no doubt that it does much harm in cases where it is given for particular purposes in certain diseases, by hastening phthisis when the physician does not suspect the last to be capable of showing itself. I presume that mercury does most injury after the Tubercles are deposited in the lungs, by hastening their softening & destruction. Suppression of discharges which the patient has long been habituated to are ranked among the causes also. Phthisis often follows measles and low forms of fever.

Character of Tubercles.

There are two kinds of Tubercles, or rather, the tubercular matter takes two forms, and it is very probable that these two kinds may differ in their chemical compos-

tion, but this I do not know.

The first are the miliary tubercles, or "gray granulation" of Laennec. They, as their name imports, are of a grayish color, and the size of millet seeds, varying, however, to that of a pea. These are usually scattered throughout the lungs; but sometimes they are collected in bunches in the upper part of the lungs, mostly, and only.

The second kind, or those made by the change of the first, are the proper tuberculous matter. When this change takes place, it is the first step of progress which the disease makes towards its termination. The tubercles are larger and more collected than in the first variety, and we have better evidence of the presence of the disease now than we had before. These are of a round form, generally, as they are imbedded in the substance of the lungs, which opposes but little, their efforts to assume this shape, as just mentioned.

The first step which these bodies take, if the disease runs through its course, is that of

softening; and this is what we always look for with fear and trembling; as it is an evidence that the disease is taking just the course to carry off the patient, in the large majority of ~~patients~~ cases. If they go on to soften, as they most always do, they are discharged from the lungs either separately (this is occasionally the case), or after being converted into a homogeneous mass of purulent matter. After they are gotten rid of, cavities are left, and there may be either a cessation of the discharge and cicatrization of the vomica, or pus ~~may~~ may be split up from its surfaces, and the cavity enlarged by the softening of other tubercles in the neighborhood. And, what is common, new cavities are made in some other part of the lung. The discharge of the bodies in the manner in which I have endeavored to describe it, is one way in which spontaneous cure sometimes take place. Another and better way, however, is the conversion of the matter of tubercles into a calcareous substance. These look at this time like pieces of chalk of

various sizes, but generally small. Cases are recorded of persons spitting this matter for many years, and enjoying a good share of health all the time that this is going on.

Having thus briefly noticed the causes of phthisis, and the character of Tubercles we will next speak of the symptoms of the disease.

Symptoms.

We are apt to suspect a man of having the tuberculous diathesis, when we have no positive evidence of the presence of the disease. And this suspicion, if we do not allow our minds to be too much biased by it, is of much importance in making our diagnosis. Perhaps the most frequent beginning of this disease, by far, is the appearance of cough, which comes on by insidious steps. It is at first but little attended to, either by the person who has it, or by his medical friend, who may happen to visit his family. Unless there should be other signs, to attract the medical man's attention, in connection with this cough, and

those signs are plain, it will be attributed to cold which the patient has taken and nothing more thought of it, until it becomes very annoy=ing and accompanied by emaciation and some general disorder of health, which cannot be read=ily explained and attributed to any local cause; for we are to consider phthisis from its hereditary character, as being a constitutional disorder, and not a local one, though it spends its poisonous influence in an exagerated de=gree upon certain organs. The expectoration in this stage is like that of ordinary catarrh when it extends to the bronchi. The appetite is not lessened at this stage of the disease, and all the functions of the body are carried on in a natural manner. If the patient takes great exercise, there is apt to be some dyspnoea, but this is not of much consequence. Pain at the back of the shoulders is felt; but most frequently under the sternum. The pulse is often increased in frequency; and the face has the hectic flush upon it. Properly speaking, this is not hectic, but merely a flush

occasioned by arterial excitement. The hectic flush belongs to the later stage of the disease. The symptoms may thus continue mild in their character for a long time, and, indeed, they may almost disappear for several years, but at length they assume a more grave aspect, and are plainly developed. The cough becomes more troublesome; the expectoration is of a purulent kind; the pains increase; the dyspnoea is worse; and the febrile accompaniment is greatly increas=ed also. This fever often assumes a paroxysmal character. Hemorrhage from the lungs almost always accompanies the disease, in this, the first stage; and indeed it is rare that we have the disease without this very important symptom. But it is sometimes absent, except so much of it as will stain the sputa, as is the case in bronchitis.

The second stage of the disease follows the exageration of the symptoms of the first; but this is so very gradual that we cannot often tell when it actually commences. Sometimes, however, it comes on suddenly, and the best evidence we

have that it has commenced, is the expectoration of matter still more purulent in its nature than any which we have observed before. This matter is what is discharged from a vomica that has just formed and it tells us too plainly that our worst fears are to be realized, in all probability. These sputa very much resemble those of Chronic bronchitis in its worst form, and it is difficult, if not impossible to distinguish them from one another. The difference between them is sometimes told by ~~a peculiar~~ the appearance of a peculiar something, resembling bits of wool, mixed with the sputa of phthisis. It matters but little to those who understand the physical investigation of the lungs, whether the expectoration may be depended on, as a diagnostic sign or not, as our knowledge of the existence of other signs of a less equivocal character ~~are~~ is sufficient to convince us that we have this terrible disease to deal with. Night sweats harass the patient very much now, and aid very ~~much~~ greatly in exhausting what little ~~little~~ strength is left by the copious expectoration, and irritative fever. His emaciation

now greatly increases and the patient is almost helpless. Hemorrhage is had in this stage, but not so frequent as in that of the first. If the sick one be a woman, the catamenia ceases. Much stress was formerly laid on the appearance of the finger nails in phthisis; they become curved forward; but this is caused by a wasting of the fingers, and the accommodation of the nail to their ends, and not, as was thought, by an specific action which consumption as a disease had; but by one of its consequences that was just named. We see this change in the nails in other diseases where there is wasting, especially when it is chronic. The patient may recover from all of these bad signs and an apparent amendment take place, perhaps by the partial closure of the vomica, but this cessation of the violence of the disease is not of long duration. It seems that the morbid malady has only rested itself, that it might regain a part or the whole of its power to make more deadly assaults than the first. The disease returns with all of its former virulence, and

and symptoms of a still more grave character than many of those named, show themselves. Among these is diarrhoea. This is often seen with nightsweats, but most frequently they alternate. One of the most distressing symptoms of all, is the rejection of food by the stomach. And nausea is kept up for a long time. Loss of voice is also added to the many ills at this period of the disease. The feet swell, the mouth becomes sore; and the patient dies either from the bursting of a bloodvessel, or from the great and constant wasting away of the system. I will not speak of each individual symptom, as it would occupy more space and time than would be justifiable in a paper of this sort. But rather depend upon the physical, more than the general ones, and somewhat to their exclusion, as they are more apt to lead us astray.

Physical signs.

These are often obscure at first, and we find much cannot be gained by the endeavors which are made to discover any of them even when the general symptoms are

well marked. As it is customary for us to make use of percussion first of our seeing a man whom we suspect of having Phthisis, I will give in as short space, and as clearly as is in my power the information which is acquired in practicing this manipulation.

Before the discovery of percussion, or rather before it was used in diagnozing disease of the lungs, Physicians often confounded other diseases of those organs, with that of consumption. Though it may lead us into error now, and even when well understood, it is never the less a most important adjuvant with other means; and mainly with auscultation; but also as useful with the general signs. The most frequent seat of the disease being in the upper lobe of the left lung, we almost always start at that point in making our investigations. When, accordingly, we place our left hand on the part named, and strike upon the fingers of that hand with those of the right, the balls of the last being the first and only part of them which touch

the first, a dull sound is given, provided the tubercles are sufficiently collected to solidify that portion of the lung. This sound will be modified according to the number of the tubercles (as was shown) and the particular spot over which we percuss. It will sometimes exhibit perfect dullness at one place and only partial dullness at another close by; gradually decreasing until we reach a healthy portion of the lung. This dullness of sound which is given in this disease, is more apt to be confounded with that of pneumonia than any thing else when it is in the second stage. But we know that the last named disease most frequently is seated in the lower lobe of the right lung. We are not likely to take it for effusion, for that will gravitate, and then the dull sound will be heard at the most depending part. Pulmonary apoplexy might be taken for this disease, if we only depended on percussion, but I repeat that we must take symptoms collectively as the occur in all diseases; and that is the only

way in which we can ever form a correct opinion of any malady. What I have said about the signs given us by percussion is applicable to the disease in the first stage. As it is usual for us to combine auscultation with the other mode (percussion) I will note the signs given by the two in each stage of the malady, and as we employ one and both together.

If our ear be applied to the chest in this condition, or such as is indicated by the other mode of examination, we do not hear the respiratory murmur as we do in health, and if there be perfect dulness on percussion, we do not hear this murmur at all. But, in its place there is the same sound heard that we have in the lower part of the lungs when there is pneumonia, or higher up if the inflammation should have extended up the organ. This sound is the bronchophony or what is the best name (its common one) the blowing sound; like the noise made by blowing into a tube or hollow cillender of any kind.

This blowing sound is caused by the passage of the air through the bronchial tubes, and conducted to our ear by the solidified lung, just as is the case in pneumonia, when that disease is in the second stage, as I mentioned before.

One thing which is too often neglected, but which is insisted on by Professor Power, is the vocal thrill. And this is one of the best ways which we have to find out when there are diseases in the lungs of children, who are prone to move about, and be too unmanageable for us to use our ears. This thrill is felt when the person is made to speak. The hand is placed on the chest, and the voice is conducted to it by the dense lung, it then being a better conductor of sound, than when it is in a natural condition. If the patient speaks, the voice, on applying our ear, is more distinctly heard, and it seems to come from the chest instead of the throat. All of these signs are applicable to the first stage of phthisis. As the disease changes very much in its character in the next or stage, the evidences of its presence are still more plainly

visible, and I will go on to describe them in the same order as in the first stage. And first, the signs given by percussion.

The ~~first~~ second stage is said to begin with the formation of vomicae. When one or more of these are formed we may have ~~dullness~~ resonance, if they are near the surface of the lung, and there be no tubercles between the cavity and the walls of the thorax, but as there is often a portion of the organ in this position, and filled with these bodies, we cannot learn any thing positive, as to whether or not a vomi=ca exists. (And this is the more particularly true as regards them in the beginning of them. If the converse of this exists, as before noticed, we have the resonance. It is at this time that auscultation comes to our aid, and great, too, is the help which we derive from it. Again, however, this can deceive us as to the true na=ture of the disease, and give us the same signs in phthisis, that are seen in some other diseases. But I again repeat, that we must not depend on any one mode of detecting dis=

cases; but take them all together.
We have a sound heard, like the noise pro-
duced by blowing into our closed fists, or rather,
when the hand is made hollow. Or, what is
the same thing, the blowing into a vessel of
any kind. This is the cavernous respiration.
I should have remarked that a cavity may exist
without our knowing it. Such is the case if the
cavity has no communication with the air,
either through one of the bronchial tubes, or
by more. If the air be let in, we can hear a
variety of sounds, when circumstances favor
us. If there be pus in the cavity and the
patient coughs, then the moist rattle can
be had. This sound is the consequence of the
passage of air through the liquid part of
the contents of the vomica. It is heard the
more distinctly as the cavity is nearly empty,
as a larger quantity of air is admitted, and
of course, more bubbles are made, and burst.
If the patient lies still, and only breathes in
an easy manner as he can, we can know that
there is a cavity by hearing the motion of it,
as it is moved by the contraction and dilata-

-tion of the heart. It can be heard too, if the man moves himself. Another remarkable sound is the "metalic tinkling". This is heard when the patient turns over, and it is caused by the dropping of liquid from the upper surface to the lower. Professor Power says it sound like the dropping of shot into a metalic vessel. I have never had an opportunity to hear it.

I have thus spoken of the symptoms of the disease in each of its stages; and hope that I have not left unsaid any thing that would be considered important, ~~and~~ or left unsaid anything that is not true in its character. If such has been the case, the fault is mine alone, as my reference to books whilst writing this, has been unfrequent; and what has been said by me is from my recollection of Dr Power's lecture, with his views confirmed in my mind by such cases as I have had the good, ~~and~~ or ill fortune to see, and examine.

The first thing which we do when we find that a patient has consumption, is to institute the enquiry within ourselves: what shall be done for

the patient. Now this is certainly the most important thing to be done; but there are many interesting points, which we like to know something about, connected with the disease; and it would be not incompatible with those few that have been noticed, to take a glance at the others, in conjunction with each other.

Duration of Phthisis.

This is very different in different cases. Sometimes the disease will run its course very rapidly, and fatally for to the patient. At other times it lasts for many years, as we have every reason to believe from the testimony of physicians. Cases are told of men having it thirty or forty years; and the symptoms always present. Why it is that the disease should run such a rapid course in some and not in others, I cannot tell, unless the last have better constitutions than the first, though not sufficiently good to ward off the hereditary disease. It cannot be that those who die suddenly, or soon, with this malady do so because they are more imprudent than the others; at least in all cases,

for we are aware that some who live so very long with this disease present, are men who are necessarily exposed a great deal. I have been told of such by my friends who knew them; but the case of Dr Parrish of Philadelphia having it a long time and dying at an advanced age is one generally know. How long he had it; I do not know. His was also a case in point to prove that there patients do get well of the disease. When patients have it for a great many years; it often ceases to show itself, for some time, but again appears and goes on without giving the person much trouble or uneasyness, as these cessations of it give him much hope and comfort; by leading him to be think that the case with himself is of little importance.

Diagnosis.

From what has been said of the disease, it might be thought by those who depend on others, that the diagnosis is easy, but when they come to examine for themselves, a patient with the incipient evidences of this malady, they will find that it is sometimes impossible to make a correct opinion about it.

The difficulty of making out the presence of the phthisis, is mostly in the first stage; but when it has advanced to the second, we are not liable to make a mistake. Though many of the symptoms observed in it at this time may be confounded with those of other disease of the lungs. For instance: in dilatation of the bronchi, many signs which we hear in a Tuberculous cavity, are present in it. There is, however, never any dullness over the dilated bronchus; as is the case in the other kind of cavity. Nor is there pectoriloquy in the first. It will not be convenient, or necessary for me to speak of the differential diagnosis of phthisis and other diseases here; and I will refrain.

Prognosis.

This is the most distressing part of the faint and indifferently drawn picture that I have drawn of the disease which we have considered. In the large majority of cases the prognosis is grave. But consumption is not thought to be as grave by physicians of the present day, as by the older ones. Observation has confirmed the opinion of physicians of our time, in their belief that many cases get well, and

none of them who understand pathology can,
or do doubt it. If there be but one true branch
of our profession, it is that just named; and
to the ~~understanding~~ appreciation of it we owe much; as it
has opened new fields for the operation of the
physician, and the proper adaptation of med-
icine in the cure of diseases. When our opinion
is asked about this or any other disease, it should
be cautiously given, and always with a proper
regard to truth; and we are not justified in de-
ceiving our patients friends as to his condition, if
they desire to know; but it is not always right
to give the patient himself satisfaction, unless we
can say that which is good; as by the depression
of spirits which follows an announciation of a disa-
greable character his end is hastened. But when
his death is inevitable, and that result not far off,
we should tell him of his condition candidly, that
he might make any arrangement which he wishes,
either as concerning his future, or present state.
An attention to these things, is an important
part of a physician's education; and my high
appreciation of them only, caused me to add them to
what I said of the prognosis of this disease.

## Treatment.

I shall confine myself, in speaking of this, principally to the means of preventing the deposite of tubercles; and to the prevention of an extention of them after they have begun to implant themselves in the lungs.

When a man is threatened with this disease; and when I say threatened; I mean when he has the diathesis; he should be prudent in every thing which he engages in. He should more particularly avoid every thing which by any agency of its own has a direct or remote tendency to add any danger to his case. As cold is considered the main and most frequent cause of it, he must devote all of his power to avoid it. He should clothe himself with warm flannel in winter, from head to foot; and keep his feet as dry as he possibly can; for we all are aware of the great disposition which cold has of extending from the lower extremity to the chest. At the same time that these precautions are necessary, and must be enforced, I would by no means confine the patient to the house, even when the weather is very cold, unless it is at the same time damp. ~~From~~ Dry and cold air, we need not fear much, as

Chapter I.

it is less penetrating than that which is moist. In one case thick clothing will prevent its passage inwards, and in the other it can only modify it. Exercise in the open air, then, is one of the most important profilactic means which we have; and it is more so, if we enjoy the refreshing breezes of either season, on horseback, or in a vehicle of any kind; provided it is open. The illustrious Sydenham thought that riding on horseback was almost a specific in phthisis; but we cannot go as far as he did, in thinking so, although we give it much credit for all that it does. If I were so unfortunate as to have this disease, I would lead as wild a life as possible, in the western prairies in chasing the buffalo, and other wild animals, on horseback. I doubt not almost as much benefit is derived from the excitement of the chase, as from the riding itself. We forget all of our ills in these pleasant pursuits; and the despondency and gloom, which are naturaly engendered by our fearful anticipations of the end of the disease, are dissipated, and give way to cheerfulness and hilarity. This is decidedly the best plan to pursue, in those cases where it can be done; but as there are thousands in whose power to do so, we can-

not confide, and who would make too many sacra=fices by leaving home; or who are unwilling to leave their families; we must adopt other plans, such as those spoken of, first and free exercise about their farms if they have any; or if they live in cities, a drive or ride in the country every day or two. These cautious measures will often cure the disease after it has actually commenced, as is proven by experience. At any rate, they prolong life in every case. And that is of immense moment to every man. Residence in warmer climates than that in which we live when the malady has commenced, will be of the utmost benefit, if we take advantage of it before the progress of the disease has advanced too far, but I dont know that it would be of any great value in preventing it, at least after remaining warmer climates in several seasons. It is the change of air, of scenery &c. which we want; but the temperature must be equable. I believe that if a Cuban had phthisis, and came to any part of our country where the de=grees of cold are much greater than those of his ~~Cuba~~ country, provided the temperature is steady and unvarying, it would be as beneficial to him as a visit to Cuba would be to us. It is said that

the Spanish soldiers die of Phthisis very often; especially after they have been in garrison in the West Indies for a year or two. Then the scenes which were at the time of their arrival new to them, are now but every day occurrences, and do not engage their attention so much as they did at first. We know that the climate of their native country is as genial as that of any county in the world. I have seen somewhere the following: which most beautifully illustrate what I have said of the unfortunate country of which I have just been speaking. It is said in this legend: "That one of the Kings of Spain, in its infancy, was promised by St Dennis, with the granting of any wishes which he would make of him." The King asked him to give to his country the mildest climate in the world, where the vine would be evergreen. This was granted. He asked that the daughters of Spain might be the fairest in the world. Granted. That her men should be brave. Granted. That Spain should have the best goverment existing. "The last I cannot grant," said St Dennis; for the Angels in heaven would leave their abode and dwell on earth. We should not forget, though, that

the moral influences with them are many. And they no doubt have a hand in the hastening of the disease in them. They are away from home, and separated from all that they hold dearest on earth. Grief breaks down their spirits, and the lowering of vital energy follows.

I have so far spoken of the means which we adopt with most confidence, in preventing the attack; I will next speak of those used for the cure of it after it has commenced.

Those means which are employed in the first place are equally applicable to it this. And it is of course unnecessary to repeat them. There have been and are now more boasted cures for consumption than any other disease in the human frame, or to which we are subject. And as Professor Power justly and truly remarks, "it is the best proof we have, that there is no positive treatment or cure of this disease." The general health must be first attended to; and the digestive organs be got in as healthy condition as possible. For when they are out of a condition of health, we can expect but little from medicine directed to the disease itself.

It is not my intention to enter into the thorough

of the many specifics; so called.

When the patient is in want of tonics, the best are the preparations of iron and, some of the vegetable one. That which much confidence is placed in, is the wild cherry-Tree bark. This is given in infusion with most convenience. It has been often employed in the treatment of phthisis than any medicine known. Wood naptha is thought to be of service; but it is not as good as it was once thought to be. If it does any good it is probable on account of its antiseptic properties, only.

The chylibeate springs are places of resort for those with the disease; and much benefit results from a visit to them. Besides the good resulting from the change of air &c. the patient takes medicines in minute combination with his daily beverage; water. And this is no imaginary benefit; as if he took medicine every day unconbined; the thought of the object for which he did it would harass him. We ought to do all in our power to make him forget his disease; except so far, as would make him take the proper care of his health.

Of all the means which we employ, that of remov-

examination of the many remedies employed, but only of such as I have been taught to believe the best. The preparations of iodine, and iodine in its pure state, have been more frequently tried with good results than any other medicine. It has been used internally in substance and by fumigation. An ointment, made by rubbing iodine & iodide of potash with cerate; and then rubbed over the seat of the tubercles is highly reccommended by some practioners; as a means of creating the absorption of them; at the same time it acts beneficially, perhaps, as a counter irritant; if there should happen to be any bronchitis present.

Among the preparations of iodine; the iodide of iron, and the iodide of potash are the best.

Regulations of diet, I should have before remarked, are absolutely necessary. It is our object to build up his strength, and to keep it up; and we must do this by mild and nutritious food; unstimulating in its action. Perhaps when we see medicines which seem to do so much good, they are only palliatives. And they have thus deceived physicians as to their efficacy; who are ever willing to snatch at straws. I will therefore say but little about any

=ing the patient to a warmer climate. And the best places of resort are the Island of Cuba, Florida, the Islands of Santa Cruz, and Madeira. Many men who would certainly have died if the had remain=ed at home, have recovered by living in those one of these places during the winter. It is a great pity that patients are so often sent to them when there is earthly hope of them recovering. We had better let our patients die at home, than to send them to a strange country, and from all of their friends.

Of the complications of this disease, when they are present I will say nothing but little.

The treatment of complications, or what are more properly considered, the parts of the disease, and which are necessary accompaniments of it: such as diarrhoea, night sweats &c, merge into the general treatment of those when they are special; with but but little difference. For the first: astringents are necessary; as also for the last. The mineral acids: the sulphuric particularly, are the best mean which we have. Washing the patient at night with vinegar & water is highly thought of. For cough, opium, and many simple coughmixtures may be used, but our main dependence is in the first.

Briefly have I noticed the treatment of phthisis, but I have said enough in an Essay of this sort. And as the first means spoken of are the most important; more time has been devoted to the consideration of it, than to that which is afterwards used; and when it is only palliative.

It would be proper for me to speak of the appearances after death, but they are so many and so complicated, that I will say but little about them, and only as they are found in the lungs.

When we open the chest of a man who dies with phthisis, the first thing which we observe is the adhesion of the plura to the walls of the chest.

When we examine the lungs themselves, we see them filled with round bodies on their surfaces. If we pass our fingers over them, they will feel hard, and resisting. These are the tubercles which have not undergone softening. If we cut through them with a Knife, they present just such an appearance, as a small nut shell would, if it were filled with cheese and broken. If we then cut through, we come to the cavity, if there should be one, and we see it with pus in it, of a most purulent character. The sides of the cavity are

ragged and irregular. This is the case in many cases, but sometimes the cavity is lined with a false membrane, and then it has a smooth appear=ance. The bronchial tubes sometimes, and indeed, always, open into the cavity, being cut in two by the process of ~~absorption~~ ulceration. Passing across the cavity are often seen had cords; which are said to be arteries which have become impervious. The bronchi are red, showing that they have been inflamed. The larynx is ulcerated; and what is a singular circumstance, the ulceration is seen on that side corresponding to the diseased lung. There is not a gland in the body which has not some of the tuberculous matter in it. With one exception, perhaps, and that is the testicles. I have never heard of the matter being found in them.

I cannot finish this without acknowledging my indebtedness to the "Professor of the Practice of Medicine" for every idea that I have put on this paper. And if I have shown any great want of a correct appreciation of the importance of every=thing connected with this subject, it is my fault; not his. My regret is: that I have not emulated the

example of my young, but already eminent Teacher.

To Dr: Power and Dr Chew, from each of whom I have received so many favors since my connection with the University and Infirmary, I returns my sincere Thanks for their Kindness to me a stranger. And wherever I look back to the time that I was their pupil, it will be with gratitude and affection. With many wishes for their individual happiness and prosperity; and a hope that they long live to enjoy the pleasant duty of alleviating the pangs of disease in their fellow man: I bid them an affectionate farewell.

An

Inaugural Dissertation

On

# The General and Local effects of Blood-letting

Submitted to the examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

Edward Hurtt,
Kent Co. Md.

# An essay on Blood-letting, with its local and general effects.

The subject of blood-letting, is at all times one of much importance; as there is not perhaps, in the whole range of medical science, an operation more simple, in the scale of importance, than the one under consideration; so there is none; from which, mankind derives more signal benefits, when compared with its simplicity, as a means of controlling disease, when judiciously resorted to; its power is great: but it too often becomes the instrument of serious mischief, in the hands of the unskilful practitioner, and empiric. The various methods, of abstracting blood; may be embraced under the following several heads, viz. by Arteriotomy, Phlebotomy, Scarification, (cupping being merely a variety of scarification) Arteriotomy, and Phlebotomy, come under the head of general bleeding; the others, in the majority of cases, come under that of topical or local. The object, in general bleeding, is to lessen the whole quantity of blood circulating,

in the system, and thereby the force of the hearts action; whereas, in topical bleeding, the object, is to empty the engored capillaries, of local parts. Topical bleeding is thought to produce, its good effects, by revulsion, and by relieving the capillaries, in their engorged condition. General blood letting has somewhat the same tendency, in depleting the vessels concerned, in the diseased process. The dexterous cupper, will always take away blood, as rapidly as if it flowed from an open vein; when such is the case, the effect upon the system, will be the same in the one case, as the other. A similar effect may be produced, by the application of a large number of leeches; but whatever method, may be pursued in taking blood, whether from a vein, or artery, by leeching, or cupping, the effect, upon the system will be in proportion, to the quantity of blood taken, in a given time. In performing Phlebotomy, we generally select as the place of operation the median cephalic, or basilic veins, in the bend of the arm; but in arteriotomy, the temporal artery, is to be preferred. In some instances, the practitioner fails in his attempt, to get blood from the cephalic, and basilic veins, in the bend of

the arm, in consequence of them, being so small, or too deep seated, as is the case in fat, or corpulent persons, when this is the case, his attention should be directed, to some other vein, or artery, or you may deem it advisable, to apply leeches, or cupping glasses, and in order to abstract blood freely, and copiously, cupping glasses or a large number of leeches, should be applied, according to the organ affected, and other circumstances attending the case. The indications as a guide to bleeding, are the qualities of the pulse, the pyrexia, (degree) the age, sex, and general condition, of the patient, the intensity of the inflamation, in whatever way it may be measured, the period and stage of the disease, and we should be governed, also by the importance, of the organ affected, and the character, and course of the disease. When the inflamation accompanies an epidemic disorder, we are not to be guided by one of these indications alone; but by taking several, into consideration. In acute inflamation, the pulse is generally full, hard, and frequent; Yet there are exceptions, there may habitually exist,

a hard pulse, where there is no inflamation at all, owing to some peculiar, chronic condition of the heart; but in most instances, this hardness of the pulse, may be considered one of our best, and most valuable indications as to the propriety of active depletion, when we know the patient, when in health, and do not find this hardness to exist, this new quality, points out the inflamation, and calls for immediate depletion. There are many practitioners, who look upon the frequency of the pulse, as a true index to the necessity of depletion; but this in comparison with its hardness, is of far less value. A propos; The frequency of an inflammatory pulse, ranges from 90 to 130 beats to the minute, and occasionally exceeds this; but it will generally be found in children, and in persons who are singularly nervous, and susceptible, to impressions; also in those who are labouring, under some chronic, and wasting complaint, were the pulse was already frequent, but not hard, and as this hardness is our best guide, in determining the necessity, of depletion; so its disappearance, may be considered satisfactory evidence, that the operation

has been carried to sufficient extent. I will now proceed to enumerate a few diseases, in which we find a peculiar pulse. In Sanguineous apoplexy, the pulse is often, full, slow, and occasionally intermittent, Here we know, (though there are exceptions) that we must bleed, and that freely, in order to remove the stress, and pressure of the brain, and blood vessels; to diminish the quantity of blood, circulating in the system, and thereby lessen the increased action of the heart. Professor Smith mentions, the case of an old soldier, who having been for a long time accustomed, to an active military life, returned home, and yielded himself to sedentary, and indolent habits; in consequence of which, plethora and full habit supervened. In this condition he was seized with apoplexy, when he first saw him, he found him in a state of complete coma, Having opened a vein, he allowed blood to flow to the amount of 90 ounces, determined not to check it, until some decided impression upon the system was perceptible. The happy effects soon manifested itself, in the patients recovery, without any ill effects from so great a loss of

blood. Some time subsequent, he had a second attack, when in the absence of Prof Smith, another Physician was called to see him, who bled him, but to no effect, the attack proving fatal. It is the impression of Prof. Smith, that so serious a result, might have been avoided, and the patients life prolonged, by pursuing the course adopted, in the first instance, of a much more copious depletion. Had the Practitioner in the last mentioned case, been aware of the large quantity of blood, his patient could lose with safety, and adopted the course of his predecessor, the event in all probability, would have terminated very differently. In all abdominal diseases, there is commonly a frequent, small, and hard pulse, arising from the sympathy between the heart, and stomach. In peritonitis the pulse is usually very frequent, ranging often from 110 to 130 in a minute, (pulsations) and in some cases, exceeds this limit; and with this frequency may be associated a hard, and tense pulse, but there are some rare cases indeed, in which it is found full, and little accelerated; in either case, it is

always advisable to bleed; for while the blood is flowing, the pulse often becomes more developed, under its loss; and this result may always be considered sufficient evidence, that the remedy is proper. The heart is probably in a measure cramped, by the violence of the local inflamation; but if there should be any doubt about bleeding, we should adopt the safest alternative; placing the finger on the pulse at the wrist, open a vein, and allow the blood to flow: when we find the pulse becoming more developed, bleeding up, we know the operation is beneficial. This result being attained fully, we should stop, as there is a tendency in all abdominal diseases to prostration, and sinking of the patient. If on the contrary the pulse becomes weaker, and more frequent, or not rising at all under the operation, desist immediately for fear of producing serious mischief. There is a kind of pulse spoken of, by some physicians termed a bounding, and compressible pulse; occasioned by excessive depletion, which in some cases can not be readily distinguished from

that arising from Sthenia, and well calculated to deceive the young, and inexperienced practitioner. Prof Dunglison mentions a case that came under his notice, at the Balt Infirmary in which the leg of a patient, had been recently amputated: Some time during the night, an artery was accidently Ruptured, and the patient the succeeding morning, was almost exsanguineous. Reaction came on, and in this condition was visited by a skilful, and experienced physician, who placing his finger on his patients pulse at the wrist, and being unacquainted with the facts of the case very reasonably, enquired why he had not been bled, by the attending surgeon now had venesection been the resort, in this case, instead of it affording him relief, or abating the unfavourable symtoms, would have in all human probability, not only aggravated them but produced a fatal result. In this instance the excessive loss of blood, had caused the great Reaction, and therefore the excitability would have become more largely, and irregularly developed, by such an operation. Prof. Smith also mentions several

cases, which came under his notice of a similar character; to which his attention was called by the attending Physician, to treat as was supposed to be, an aneurism of the aorta: when indeed it was but the consequence of excessive depletion, to which the patient had been subjected, by his professional attendant. In the early stage of the depleting process the patient for a while seemed greatly relieved; but as it went on reaction took place; The pulse spoken of by different authors, as a pulse, that seems speedily to empty itself, a spurting, compressible one, supervening with throbbings of the carotids, and temporal arteries, and red patch on the cheek, they would bleed their patients again, and again, consoling, and deceiving themselves, by the short, and comparative amendment, that would follow each bleeding. It is to be feared, that many patients have been bled to exanimation; in like condition, and under similar circumstances, whereas sedatives, tonics, and suitable regimen of diet, would have

effected a speedy recovery. Besides, the presence of well marked pyrexia, when it occasions much disturbance in the system, we should seek other indications, before bleeding. If such indications exist, we may with safetty bleed; but the presence of pyrexia in itself, is not sufficient to justify a resort to this remedy. In the hot stage of intermittent, we have high febrile excitement, but here inflamation does not exist, unless it existed antecedent to the attack, again: Local inflamation, may affect some unimportant organ, and give rise to a considerable degree of fever, but knowing the part affected, and the course of the disease, it is deemed unnecessary, and inexpedient, to bleed. The age, sex, and general condition of the patient, must influence our judgment, in taking blood. The old and very young, bear the loss of blood, with much more inconvenience than those of middle age. In old persons, the full quantum of blood, is essential in cherishing and sustaining, their feeble

functions, to a natural standard, but
even this, should not deter us from bleeding
when the case demands it. This consideration
enforces upon us the duty, when any
one of their vital organs are affected
with acute inflamation, to make as decided
an impression upon their system, in a short
space of time as practicable, at the expense
of as little blood loss to the system as possible.
In doing this, we should place the patient
in an erect position, and open a large
orifice in a vein of one or both arms.
In taking blood from children, it is
far preferable to use leeches: access
to their veins is often difficult, whereas
the application of leeches answers every
purpose and has much the same effect
upon them, as a general bleeding, on
adults; nor can cups be advantageously
applied to them, in their tender years,
on account of this irritability, to which
they are apt to produce: as it regards
sexes it may be briefly remarked,
that males bear the loss of blood, with less

inconvenience than females, owing to the nervous irritability, to which the latter are more susceptible, than the former. In bleeding, much attention should be paid to the general condition of the patient. we should know whether his health is broken, whether he labours under any specific disease, or any chronic affection of the heart, such as passive dilatation; and in such cases, extreme caution should be observed in depletion; for fear of sudden prostration. The degree of inflamation, must be judged of by the general febrile disturbance, by the pulse, and the part affected, if the inflamation be great enough, to give rise to much febrile excitement; where we find a full, hard, and frequent pulse, it is often necessary, to take a small quantity of blood, to curb the heart's action, for fear that it might bring on inflamation, of some important organ. The period and stage of the disease, is always an important consideration, in bleeding. It is in the early stage of the disease, that bleeding exerts

its most powerful, and beneficial influence, in controlling, and cutting short disease, before any serous effusion, or disorganization, of the parts take place, whenever therefore the Physician is called, to a patient who has been attacked, but a few hours with inflamation, his duty is to bleed to Syncope, and to administer a good dose of opium, to keep down excitability, which in all probability, will cut short the disease in its incipiency. The vitality of the organ affected, is also of the utmost importance, and should engage, the most serious attention of the practitioner—In cases when vital organs are attacked, blood must be freely taken, and with as little delay as possible—For the least impediment, to the discharge of their function, cannot be too early removed, nor the lightest degree of inflamation, too rapidly allayed. The neglect of which, would not only conduce, to serious mischief, but fearfully endanger the life of the sufferer—In cases of pneumonia, it is sufficient to know that the disease exist, and we bleed

in spite almost of all other contra-indications. By this means we produce a double effect: not only by lessening the whole quantity of blood circulating in the system, but also as a consequence by bringing the lungs nearer to a state of repose, or of easy action.— In prevailing epidemics the character and course of the disease must be studied.— From some cause yet unknown, the disease has in certain seasons of the year, a tendency to assume the typhoid type. And experience has taught, that if bleeding is resorted to at all, it should be done with the utmost caution, as in many instances bleeding in such cases is followed by alarming prostration, and sinking of the patient. The buff in the blood is generally looked upon as an index highly favourable to depletion; and it was for a long time looked upon, that while this appearance existed in blood drawn from patients, it was safe to continue the operation. But like many other, of our most valuable indications; taken by itself is not sufficient to justify such a course.

For we find this buff, to exist in the blood of pregnant females, and in persons in a chlorotic state, in which, it would be highly injurious, and dangerous to keep up depletion, so long as such an appearance continue to exist, because in Rheumatism, long after it is found unsafe to deplete our patients, we find in their blood drawn, the buff still existing; and on the other hand, if other indications demand the lancet, we must not withhold the operation, because the buff does not exist. As to the relative merits of cups, and leeches, we may decide in favor of cups, for they are at all times accessible; whereas it is not the case with leeches, and with cups we can ascertain the quantity of blood taken, much better. Leeching as I have said is preferable in children, and in delicate organs; and organs that have become sensitive under disease. Topical blood-letting is generally used in chronic inflamations; and general in the acute; nevertheless they may be advantageously

used together, general to lessen the quantity of blood in the system, and the force of the hearts action, and topical to disgorge the loaded capillaries. Scarrification is sometimes practised, in erythematous, or superficial inflamations, with a lancet or razor, by slightly scarrifying, in a number of places. Sometimes we practise this, in the engorged conjunctiva of the eye, and also on the tonsils. I have said nothing, of bleeding from the jugular vein, because it is thought not safe practice. As to the quantity of blood, to be taken, there can be no definite Rule Laid down; we must take into consideration all the circumstances, I have spoken of. The average quantity of blood, to be taken, is thought to be from 15 to 20 ounces, where acute inflamation attacks one in good health. In conclusion let me say, the subject of bleeding, in all its bearings and usefulness, opens an extensive field for medical Research — In this humble effort, to throw together such Facts, as I have gleaned from other disquisitions,

on this subject, I hope I have not transcended the limits, usually allotted to students on such an occasion. Feeling fully sensible of my own inexperience, and my incompetency, to so important a task, it is with becoming diffidence, that I submit these views, to the critical acumen of the learned Professer. Should they not meet with that favourable consideration, of the Faculty which has been my sole aim to secure, I shall always cherish for our alma mata, the liveliest sentiments of regard and esteem, and treasure up the many associations I have enjoyed, among my proudest, and habpiest Recollections.

An

Inaugural Dissertation.

on

# Apoplexy.

Submitted to the examination
of the
Provost, Regents, & Faculty of Physic.
of the
University of Maryland.
for the

Degree of Doctor of Medicine.

By

John. A. R. Krozer.
of Virginia

1848.

The March of
Knowledge is always slow, and
there is nothing by which her
progress is so often or so efficiually
retarded as the reverance with which
We are generally disposed to view
long received opinions; What Men
have long heard confidently af-
firmed as truths, they are apt at
last to regard as axioms, and to
receive with great hesitation and
suspicion, any opinions or facts, which
go to invalidate them, But truth
is great and will Prevail," Her
progress though slow is sure, and
after her lineaments have been
once fully made out and her
indentity clearly ascertained, She
is received with confidence, and
there is little danger of her
being afterwards forgotton or ab-
andoned; The consequences of de-

-sease and the evils subsiquent to many of the adopted modes of cure are so generally felt that they claim the attention not only of the Practitioner, but of all men qualified for beneficial enquiries: To treat properly and successfully the various accidents and deseases to which the human Body is liable, requires a degree of skill which can only be acquired by Years of Study, and an entire devotion of the mind to the practice of the healing Art.

An attempt to advance anything new on a subject like Apoplexy which is involved in obscurity and has been the theme of discussion for the past Century— Is far beyond the slender abilities of the Writer. What is Apoplexy.

It may be defined a suspension of

the functions of Sensation and Motion;
Respiration being generally laborious,
and accompaned with a sterterous
noise. The patient is sometimes war-
ned of the approach of the decease
by what are termed Premonitory Symptoms
Such as a dull pain in the Head, accom-
paned by a sense of heaviness, Vertigo,
Fullness and redness of the Face and
eyes, Bleeding from the Nose, Ring-
-ing in the Ears, and loss of Memory,
A sense of constriction about the
Throat and chest: Usually the
attack is more sudden, the Patient
falling to the ground, with
scarcely any warning; And lies as
if in a deep sleep, from which it
is impossible to rouse him. In
this state his breathing is lab
-orious and generally accompaned
with Sterter: The Face red, and
turnid The Vessels of the Head,

and Neck distended, Head hot.
The Eyes frequently congested.
Pupils generally dilated. Sometimes
contracted to an inordinate de-
gree: Lids, partially open in
some cases. Very frequently cl-
osed in others. The duration of
the attack is variable, The
Patient recovering in three
or four hours: In other cases
it is prolonged to twenty four
or even to thirty six hours.— ter-
minating in Recovery, Paralysis,
or Death. Paralysis does not
supervine in every case. The
Mouth of the Patient is gener-
ally drawn to the opposite side
(of the one affected) The Saliva
flowing over the Chin.

From the injury inflicted on
the Brain, It is sometimes left
in an enfeebled state,- the

Intellect being impaired, and the Patient,- generally left in a helpless condition, until ex austed by repeated attacks, Death to relieve the unhappy sufferer closes the Scene;

The Exciting Causes of this desease are numerous,- such as intense application of the Mind; The use of stimulating Potations, A free indulgence in the Pleasures of the table, The depressing Pas-sions, Interruption of the Circula-tion by tight ligatures around the neck, Keeping the Head in any position that has a tendency to impede the return of Blood from that Part,- Such as Con-tinued Stooping, or looking back; The Sudden suppression of any long habitual discharge, Violent Straining at stool, and

in lifting heavy Weights, The
Cold Stage of Intermittents,
Excessive Heat, and Cold, and
in fact all causes which have
a tendency to determine a
too greater quantity of Sanguinous
fluid to the Head. The desease
may happen at any age, but
is most frequent towards the de-
cline of life; Especially in those
Persons of a Plethoric habit,
Who have short Necks, and are
indolent, and indulge much
in eating, drinking, or excesses
of any kind:
In the Diagnosis of this desease it
may be distinguished from Epi-
lepsy, by the prescence of Convulsion
and contorlions of the limbs, (unaccom
panied by stertor) in the latter
compleint. From Sincope by the
appearance of the Countenance

and by the Pulse and Respiration.
From intoxication by the Patient
being partially Roused by Shout-
ing in His ear, or by applying
a strong stimulant to the Nostrils.
The Odour of his Breath and Pre-
vious History.
The Prognosis, of this Desease very
Doubtful.

Although in the
Treatment of this desease it has
been usual to divide it into two
Varieties, Viz.- Sanguinous, and Serous.
The former arising from the extrav-
isation of Blood; The latter from
the effusion of Serum. Yet it is
very doubtful wether these distinc-
tions have any real foundation
in experience, or observation; But
in treating this desease it is unque
stionably proper, and necessary, to
attend to the following Modifica

tions. 1st Apoplexy occuring in the Vigorous, and Plethoric, and 2nd Apoplexy attacking an enfeebled constitution.

Where it occurs in the Vigorous and Plethoric. Bleeding so as to make a decided impression on the Pulse, is our first means of resort; and of undoubted Propriety. The Patient should be placed in the recumbent posture with the Head elevated, All ligatures should be Loosened particularly about the Neck, and Cold applications applied to the Head, On the other hand where it occurs in the infirm or Aged, Active depletion if practised, should be used caution. In some cases we will have to abandon the use of the Lancet altogether, and abstract

Blood, by means of Cups, applied to the temples, and Nape of the Neck

Purgative Medicines, are of the utmost importance in this desease The Virtues of Calomel and Jalap have been highly recommended as a Purgative in this desease, Its Bulk however, and the difficulty, which is often met with in the administration of that remedy, is a very great objection to its use in many cases.

The Croton Oil, has been very highly extolled. I have never found a Purgative to answer my expectations more readily than this Medicine, The Smallness of the dose, and its easy administration combined with its almost equally certain effects is sufficient to give it the preferance

over all others in this complaint.
Although the utility of Emetics
in this, and a variety of other de-
-seases of a similar nature is suf-
-ficiently established by the testimony
of many of the most emminent
Physicians, Yet from their tenden-
cy to determine the Blood to
the Head, they should be used
with caution:

Where the attack
comes on immediately after a
full Meal, Emetics, preceeded
by active depletion, are indispens-
-able:

Frequently from the over congested
state of the Brain, it is incapable
of receiving or transmitting the
impressions conveyed to it: Here
Emetics will be of little avail,
The Epiglottis being insensible to
Stimulants the exibition of reme-

dies by the Mouth would only have a tendency to hasten the Patients dissolution. Here stimulating Enemas, and the application of Blisters to the Nape of the Neck, extending down between the Shoulders, in conjunction with Sinapisms, to the Epigastrium, inner part of thighs, and Soles of the feet, are our only remedies in which we can place reliance During the first stage of the attack Purgative Enemata (from their derivative effect) should be resorted to, - and when given in conjunction with Purgatives by the Mouth, they have a tendency to ensure their speedy action;

But in the treatment of the Second variety (Apoplexy occuring in an enfeebled constitution).-

Free local Bloodletting by Cups and Leeches, will be preferable

to the Lancet.

Purgatives in this form of the desease, are of great importance. The forms recommended in the former variety,- are applicable in this, though the Patient need not take them in such large doses; Blisters, with stimulating Pediluvia, to the extremeties, are highly useful, and when recovery takes place. A change of Air and Scenery, with mild Laxatives, and a well regulated vegitable diet in conjunction with gentle exercise may be resorted to with a prospect of considerable advantage. After a Patient has suffered an attack of Apoplexy, The predisposition to a return, is much greater than formerly. I therefore consider it my duty to say somthing about the causes, which have a tendency

to ward off a Paroxysm;
They whom from their Constitutional conformation, are predisposed, to the present affection, ought to be very attentive in observing a mild Spare Vegitable diet, and regular habits, they should rise and retire early, Avoid all Stimulating Potations, especially Malt Liquors, Keeping at the same time, the Bowels in a soluble condition, Useing moderate exercise in open air; The establishment of a drain in some portion of the Body; A Seton to the nape of the neck or an issue over the belly of the Gastrocnemeis, has been decidedly beneficial, and highly merits the attention of those who have suffered an attack of this desease, Daily frictions with the flesh brush over the

entire body, produces a very beneficial effect. It has been correctly remarked, that the recovery of health and strength, (after the disorder has been in a measure subdued) requires and often for a long period of time, unceasing attention to the directions of the Physician; Having the head shaved, and washing it with cold water, Frictions often repeated, with the flesh Brush dipped in Cold Water, and applied to the Head, are practices worthy the attention of the Physician; As soon as practable it is highly expedient to use the Shower Bath, with tepid or cold Water. Frictions to the limbs, and patting them by the hands of a Servant, particularly the feet and Legs, greatly tends to the

acquisition of strength, and brings what is so much wanted, the Blood to the extremeties;

The Patients bed chamber should be well ventilated; the Dress should be made light and loose; Particularly about the Neck, Wrists and Knees, Suppers should be strictly forbidden;

With respect to Sleeping, a Mattrass is far preferable to a feather bed, the pillow should be stuffed with horse hair, in lieu of feathers The Head Should always be Kept higher than the Body. A habit of retiring and rising early, should be strictly enjoined, Daily exercise is of the first importance, more particularly if the patient be of a full habit.

Riding on horseback is attended with danger; A large well Ventila-

led Carrige is far preferable,
Walking on level ground, directing
the operations in the labours of
Gardening. The Management of
the Green House, or attention to
the Culture of Plants, will have
a tendency to divert the Pat-
-ients mind, All games of Chance,
from the excitement they are
apt to produce, are to be strictly
forbidden. Books of a light and
amusing description, are proper.
And the Company of the Young
and Gay ought to be cultivated:
On the Whole, it is hardly possible
where the constitution is not too
much implicated, that a careful attention
to all these particulars, if not
productive of benefit, no harm
can necessarily accrue Therefrom.

An —
Inaugural Dissertation.
On
Respiration —
Submitted to the examination
of the
Provost. Regents and Faculty of Physic
in the
University of Maryland —
for the degree
Doctor of Medicine
by
John W Waugh
of
Maryland —
A.D. 1848 —

# Respiration.

By the air is meant that elastic fluid which envelops the whole earth, and extends some distance from its surface. It constitutes what is called the atmosphere. By its weight its compressibility, and its pressure in all directions, it insinuates into every vacuity; and its presence is absolutely necessary to the existence of every vegetable and animal. In order, however, to understand the manner in which it contributes to the support of living things, some account must be given of its composition.

Although the air, as we breathe it seems to be a simple and homogeneous fluid, yet it is in fact composed of two distinct constituent parts, upon the mixture or combination of which, its adaptation to the preservation of life depends, containing besides some other ingredients of minor importance. These main elements are two permanently elastic gases, oxygen and nitrogen. Atmospheric air contains about twenty three parts by weight

of the former, seventy seven of the later, out of one hundred: or since oxygen is the heaviest of the two gases, twenty one by measure of the oxygen, and seventy nine of the azote

It is upon the oxygen of the air that its fitness for supporting animal life depends for when an animal is confined within a small quantity of air till this is exhausted, it dies from suffocation, although the nitrogen remains unchanged.

No animal can exist in an active state without air, but different classes of animals differ much as to the manner in which the function of respiration is performed. The influence which the air exerts, is always upon the blood, it produces some alteration, or imparts some principle to it, which renders it fit to be distributed, to the body for its nourishment. In all the animals which have red blood, this change consists, so far as can be observed in imparting to the dark venous blood which is sent to the lungs by the heart

a vermilion color. In this state it is returned to the heart to be distributed throughout the body by the arteries. In the mammalia, the air is alternately drawn into the lungs, and expelled from them by the action of the diaphragm, and muscles of the ribs. This is called the inspiration and expiration of the air which is constantly going on, in order to produce the requisite change of the blood which is continually passing through the lungs. In the greater part of this class of animals if this process be stopped but for a few moments, death is the inevitable consequence. This is the case with the seal and whale it can be suspended for a longer period the power of existing a length of time without breathing may be acquired as is the case with pearl divers.

There are many other kinds of air or gas, which may be taken into the lungs besides the atmosphere, but none other will support life

The quantity of air ordinarily contained in the lungs of a common sized man, immediately after an inspiration, has been calculated to be about two hundred and eighty cubic inches and about forty inches are drawn in and thrown out at each inspiration and expiration. So that the whole mass of air is not changed at every breath but a large proportion remains constantly present, and distends the lungs

If the air which has been respired be examined a change will be found to have taken place in its composition the oxygen having disappeared and in its place about the same bulk of carbonic or fixed air. There is also a considerable quantity of watery vapor. Respiration commences immediately after birth, and at the same time a change is produced in the circulation. Before birth, only a small proportion of the blood is carried through the lungs but after birth, and through life the whole of it

The connection between the action of the lungs and that of the heart is very close and important. The functions they perform are mutually dependant and neither can go on alone. If the circulation ceases by the cessation of the action of the heart respiration is instantly interrupted.

If on the other hand respiration ceases the heart does not stop at once, but as the dark venous blood is no longer changed in its properties, as usual in the lungs, it is returned to the heart in the same state and is then sent throughout the body; and being totally unfit for the purposes of life, destroys it by cutting short the action of all the organs. The effect of its contact upon the brain is immediate suspension of life, and if the cause be long continued it is never restored. But in many cases of this kind, as in persons apparently drowned, circulation and respiration may be restored by inflating the lungs with air and application of

warmth to the body. Respiration has been supposed to be the cause of animal heat various opinions have been advanced to account for the manner in which it maintains the temperature of our bodies

It appears undoubtedly to have some very close connection with respiration and dependence upon it for the degree of heat in animals, is generally proportioned to the vigor and quantity of respiration. The temperature of birds is higher than that of man, and they consume a greater quantity of air Reptiles and fishes have cold blood and they consume comparatively a small amount. Besides these uses of the function of respiration it is made subservient to a number of other important purposes. all animals furnished with lungs express their wants their affections and aversions, their pleasures and pains either by words or sounds peculiar to each species. They are produced by different changes in larynx or canal

through which the air is drawn into the lungs.

The inferior animals are by this means enabled to maintain some sort of communication with others of the same species and can to a certain extent convey information, and express their affections and wants. But how far they are intelligible one to another is impossible to ascertain. On man alone nature has bestowed the faculty of speaking, or of expressing his various feelings or ideas by a regular extensive and established combination of articulate sounds. To have extended this faculty to the brute creation, would not it is probable have been of any use to them, for though some animals can be made by being taught to articulate what, yet few or none of them seem to have any idea of the proper meanings words when uttered. Speech is performed by a various and complicated machinery in speaking the tongue, the lips, the gums, the palate, the nose, the throat with the muscles bones

of which these organs are composed, are all employed. This combination of organs we are taught to use when so young that we are hardly conscious of the laborious task, and far less of the manner by which we pronounce different letters and words. The mode of which may be learned however, by attentively observing the different organs employed by the speaker. By this means we are enabled to correct the various defects of speech and even to teach the dumb to speak; for dumbness is seldom the defect of the organs of speech but generally arises from a want of hearing for it is impossible for deaf men to imitate sounds which they never heard except they be taught to use their organs by vision and by touching.

When about to laugh we make a very full inspiration, which is succeeded by frequent, interrupted and tumultuous expirations, when the titillation is great whether it arises from the mind

or body. These convulsive expirations sometimes interrupt the breathing to such a degree as to endanger suffocation.

Moderate laughing on the contrary produces health; by agitating the whole body, it quickens the circulation of the blood, gives an inexpressible cheerfulness to the countenance and banishes every kind of anxiety from the mind. In weeping we employ nearly the same organs as in laughing. It commences with a deep inspiration which is succeed by short broken, sonorous, disagreeable expirations. The countenance has a dismal aspect and tears are poured out. Weeping originates from grief or other painful sensations of body or mind, when full vent is given to tears grief is greatly alleviated. Both laughing and weeping have been reckoned peculiar to man. Though other animals express not their pleasures or pains in the same manner as we do, yet all of them exhibit

their pleasant or painful feelings by symptoms or cries which are perfectly understood by the individuals of each species and in some instances by man. A dog when hurt expresses in the bitterest terms his feelings and when he is afraid or melancholy he evinces the situation of his mind by the most deplorable howlings. A bird when sick ceases to sing droops the wing, abstains from food, assumes a livid aspect utters weak cries and exhibits every mark of depressed spirits. By this means animals intimate the assistance they require or reprove those who maltreat them. Their plaintive cries are sometimes so affecting as to disarm their enemies or to procure the aid of their equals. On the other hands when when animals are pleased or caressed they discover by their countenance, by their voice, by their movements unequivocal evidence of cheerfulness and alacrity of mind. Thus the expression of brute animals though not attired in the precise manner

with those of the human species are perfectly analogous an answer the intentions of nature. By respiration and the instruments employed in the performance of it the young of animals are enabled to extract milk from the breasts of the mother. By respiration odors are conveyed to the nose, and coughing, sneezing, yawning, sighing singing, gaping and many other functions of the animal economy are partly accomplished.

An Inaugural Dissertation

on

Intermitting Fever

Submitted to the examination

of the

Provost Regents and Faculty of Physics

of the University of Maryland

for the degree of

Doctor of Medicine by

Wm. Huff Stamps Jany 1848

# An Inaugural Dissertation
## on
# Intermitting Fever
Submitted to the examination
of the
Provost Regents and Faculty of Physic
of the University of Maryland
for the degree of
Doctor of Medicine by
Wm. Henry Stump Jany 1848

In as much as Paino miasmata is considered the only genial cause of Intermitting Fever it may be proper to consider briefly the Nature of this cause. It has been defined to be a gaseous poisonous exhalation generated by the humid decomposition of vegetable and animal substances ~~xxxxxx~~ in the public filth of cities in marshes, and in other soils and situations containing these materials. Heat and moisture are necessary to the generation of this deleterious agent. The diseases which arise from this source rarely occur and never epidemically in latitudes where the temperature seldom arises above 60° of Farenheit. Indeed this poison is seldom generated sufficiently to create extensive disease so long as the temperature remains below 80°.

That a considerable degree of moisture is favourable to the evolution of this poison is shown by the fact, that marshes, the oozy shores of Rivers and stagnant pools are the most unhealthy situations during warm weather — Although such situations

an the most fruitful in this pestiferous agent, yet in our climate there are few situations but furnish the necessary conditions to a greater or less extent. A mixture of fresh and salt water in marshes is known to increase this noxious gass in a remarkable degree Sudden atmospheric vicissitudes enhance the poisonous impressions of this agent. The disease is more prevalent than when the days are very warm, and the evenings and mornings cool, and damp. The morbific qualities of this effluvia vary in different places, from the relative proportions of vegitable, and animal substances being different in different localities and the same miasm may effect different persons in a different manner, one person may have Intermittent, one mild Remittent, a third malignant Bilious Fever, whilst another may escape disease entirely. Intermittents are in general the least dangerous of all the febrile diseases, resulting from this febrific cause. The period of incubation varies from one or two days to two or three weeks. Intermittents may occasionally arise from worms and other causes of intestinal irritation. Suppressed catamenia and haemorhoidal discharges have been also mentioned

as an occasional cause.

Of the Proximate cause and of its periodicity we know little. Broussais has attributed the Proximate cause of this and all other fevers to inflammation of the mucous membrane of the alimentary canal. this supposition is not considered correct, and the subject is perhaps forever to remain undetermined. The time occupied by the paroxysm of a fever and the succeeding intermission is called the revolution of a fever. The revolutions are various in different fevers some completing their in twenty four hours, others in forty eight, others in seventy two, and others in ninety six hours. The form a fever assumes in this respect is called its type. A Fever revolving in twenty four hours is of the quotidian, in forty eight of the tertian, in seventy two, of the quartan and in ninety six hours of the quintan type.

The Symptoms which usher in an attack of this fever are similar to those of fevers in general. viz a general feeling of disquiet, lassitude and slight aching pains in the back and extremities. The paroxysm consists of three stages marked by peculiar phenomena, each stage the consequence

of the preceding viz the cold the hot and the sweatings. After the initiary symptoms have continued for a shorter or longer time, the patient experiences at first slight and transient sensations of cold along the back; the hands and the feet loose their natural temperature. the patient is generally restless and fretful - This sensation of chillness soon extends over the whole of the body, the skin becomes pale and rough; the pulse small contracted firm and frequent; A slight trembling of the muscles begins, at first of the jaws extending extending by degrees over the whole system. and sometimes so severe as to agitate the sufferer as if he were in a paroxysm of Convulsions, and frequently succeeded by great exhaustion. During the Rigors owing to a retreat of the blood from the surface to the large vessels in the neighbourhood of the heart and in the heart itself, the surface is benumbed and the whole body is diminished in volume, as is evident from the fact that rings which were previously tight drop from the fingers. The sensation of cold is not always confined to the surface; but sometimes becomes general, accompanied with much

pain and anxiety; the breathing is hurried and oppressed. with a feeling of weight and tightness about the chest; the sensorial functions are disturbed and in debilitated persons coma is apt to supervine. And about the subsidence of this stage frequent distressing vomiting, generally bilious though sometimes viscid, transparent and insipid is apt to occur. The mouth and fauces are dry attended with much thirst. The urine is clear and without sediment. The duration of this stage may last from a few minutes to four or five hours Sooner or later the chills abate receding gradually until the hot stage has become fully established. During the continuance of this (the hot stage) (which continues longer than the preceding and terminates in the last or sweating stage) the countenance is flushed and full, the surface of the body hot and dry, there is very great thirst; the respiration becomes more free. there is much pain in the forehead, in the back and extremities, attended sometimes with slight delirium; the urine high coloured, scanty and without sediment. The febrile symptoms gradually disappear as the perspiration becomes general over the surface

The urine now deposits a lateritious sediment
During the intermission, notwithstanding the disappearance of the febrile phenomina, the patient generally exhibits evidence of want of health by a pale and sickly aspect, languor, want of appetite and general lethargy – Sometimes there seems almost a return to perfect health during this period – The nearer the approach to perfect health during the intermission, the more readily in general will the disease yield and the less liable a relapse
Intermittents have been divided into Inflammatory Congestive, Gastric and Malignant and each of these varieties is sufficiently marked to render this division appropriate
For instance in the Inflammatory variety the vigors are very strong and in the hot stage the febrile reaction is very great and does not entirely subside during the period of remission, there is slight headache and pain in the back and extremities and in general there are no symptoms of Gastric disturbance from vitiated secretions of bile &c
The Congestive Gastric are marked by a protracted cold stage, violent pain in the head, vertigo, coma

and much oppression in the breast, the hot stage coming on slowly and being imperfectly developed and by the system continuing oppressed, the skin scarcely warm, the countenance pale the respiration confined and the pulse small tense and frequent— This variety is infrequent and generally in debilitated constitutions—

Gastric Intermittents are manifested by by symptoms of gastric and intestinal irritation, a foul and bitter tongue, much nausea and bilious vomiting, pain in the forehead, diarrhoea an icteric hue of the skin and albuginea, great desire for acid drinks, a bilious urine, and a sense of weight and fulness in the right hypochondrium Visceral disorders, induration of the liver and splen are the sequela of this variety

Malignant Intermittents occurring in hot climates are always of a dangerous character and are marked by a copious and fetid perspiration in the third stage, colliquative hoemorrhages from various parts of the body, petechia and other signs of malignancy— Death generally takes place in the third paroxysm

There are exceptions to the regular course and

general phenomina of this disease, and in Infants the paroxysm seldom commences with rigors, instead there is generally a sensible reduction of the temperature of the skin, with a pale contracted countenance, yawning, and stretching during this stage. Sometimes it is ushered in by convulsions; but the convulsions are most likely to occur at the commencement of the hot stage — Various other affections are known to return periodically and to manifest an affinity to Intermittents by being ushered in by a sense of chilliness and by yielding to the same treatment — as Neuralgia. Rheumatism of the eye, Hemeerania, Dysentery Cholera Mania &c. Intermittents often produce or are complicated with or are followed by various other disorders some the production of the fever itself but most the result of the same general cause

Dropsy Jaundice and Aneurismal enlargements of the heart and vascular vessels, result from the condition produced by the disease itself; whilst Dysentery Cholera Paralysis, neuralgia and some other disorders recurring periodically are no doubt the offspring of

the same general malarious cause —

Climate modifies the malignancy of this fever in a remarkable degree; for the quantity of the poison is generally increased with the temperature, which at the same time increases to disease — Although in temperate latitudes, (unless in persons of debilitated constitutions) death rarely occurs from this disease; yet the known debasing influence moral, and physical upon those persons who are continually and for a long time subject to the full influence of this malarious poison, sufficiently justified the ancients in representing it as many headed monster — The fact that (so long as the digestive functions are but little disordered, with slight gastric irritation) this disease readily yields to appropriate treatment, and that there is universally a greater or less derangement of this function for a longer or shorter time prior to its actual commencement (if indeed the rigors are not only concurrent symptoms) would seem to justify the view of Broussais that Gastro Enteritis is the Proximate cause of each succeeding paroxysm, which by removing

for a longer or shorter time the peculiar condition of the animal economy, and may very satisfactorily account for the periodical return of the paroxysms, without supposing it necessary for the inflammation or irritation to return at intervals. Is it not rational to suppose (the morbific cause and the irritation both continuing) that the Paroxysmal effort of nature to relieve itself may remove for a period according to the dose of the poison or the peculiar state of the patient the effects of the ~~poison~~ inflammation And that it is ~~by~~ in this way that nature unaided sometimes effects a cure?

However be the cause what it may. By counteracting or removing the malady (which is wide spread and to be dreaded for its immediate and remote consequences) Science has done much for suffering humanity — I shall now consider the indications to be pursued in the treatment of this disease, under the various forms it is wont to assume — Generally if medical aid is demanded in the first stage of the Paroxysm, and it should be thought advisable (at this time) to interfere, we may arrest or materially curtail

the duration of this stage by the administration of an Emetic or twenty drops of Aqua Ammonia in a wineglass of sweetened water— And in debilitated and relaxed habits, one or two grains of opium given immediately before the commencement of the chills will be followed by the same result and under the same circumstances a Tourniquet applied to an upper and lower extremity so as to arrest the circulation will sometimes put a speedy stop to the chills, and in persons of a plethoric full habit, not infeebled by fever or intemperance, it is said that bloodletting to the amount of six or eight ounces and in some instances to much less, has afforded instantaneous relief— During the hot stage when the Arterial excitement is very great and we have reason to dread the occurrence of delirium or alarming local determinations, Bloodletting is decidedly indicated, and in full plethoric habits will aid materially in the arrest of the disease— Cool acidulated drinks are grateful and salutary— When the patient is much oppressed by a high fever and burning heat, we should administer some of the refrigerant diaphoretics

as Liquor Ammonia Acetatis, spts Nit. dulcis or Tartarized Antimony with Nitras Potassa —
To arrest vomiting in the cold, or hot stage, (after aiding the removal of the Bile by the free administration of warm drinks) opium is considered the best agent in this disease, and when the vomiting is not connected with inflammation a solution of Camphor in Sulphuric Ether is highly efficacious — Two Scruples dissolved in an ounce of the Ether, of which the dose is 20 or 30 gtts with about 10 grs calcined Magnesia, every half hour until vomiting ceases. The period of Apyrexia is generally considered the proper time for combating this disease. In the Inflammatory variety an antiphlogistic course will be proper before venturing on the use of Tonics — We should commence with the administration of one or two cathartics, and where this diathesis is very considerable, bloodletting and saline diaphoretics are requisite The Pulvis Nitras Potassae ʒ188. Pulvis Doveri ℥1 gr Calomel ℥1 gr. divided into six powders, one to be taken every two hours during the intermission, and a small bleeding in the succeeding hot stage

will generally prepare the system for efficacious administration of Tonics —

In the Congestive variety, the oppressed condition of the system may demand the immediate use of Tonics. Where there is much gastric distress, indicated by nausea, vomiting, foul tongue and pain in the Stomach & Bowels, Mercurial purgatives assisted by Emetics should precede the use of our febrifuge remedies — Of these agents there is none more uniformly potent when properly used, than Cinchona and its preparations and of these the Sulphate of Quinine is in most cases a specific and certain remedy — Various other articles of the vegetable and Mineral kingdom have been mentioned as highly efficacious — among these we may enumerate ~~the~~ various barks, as of the Cornus Florida, of various Oaks, of the Liriodendron Tulpheri of various species of the willow, The Virginia Snake Root, Columba; Quassia, Gentian Yarrow &c

And in the Mineral Kingdom we have highly important agents in Arsenic & Sulphate of Zinc — Should we fail with the Quinine we might call to our aid some of the above articles —

The preferable modes of using Arsenic is either

in the form of Fowler's solution of which we may give 8 or 12 gtts every 4 or 5 hours during the Intermission or Pills of the Oxide of Arsenic & Opium containing each 1/10 gr arsenic & 1/4 gr opium 1 to be given every three or four hours dury the Apyrexia.

The following Formula's for the using Sulphate of Zinc have been recommended

℞ Zinci Sulphatis gr ij
Aq. cinnamon
— Destillat. āā ℥j ss
Tinc Columbae ℥j - M. Fiat mistura. A tablespoonful to be taken every three or four hours or

℞ Zinci Sulphatis gr X
Pulv. Capsici ann. ℈ii
Conserv. Rosar. q.s. - M. in pil XI divid. S. one to be taken every two hours during the intermission

For the removal of the visceral enlargements and indurations the result of this disease, Blue Mass in doses of 4 or 5 gr 2 or 3 times daily so as slightly to affect the gums will generally avail -

Tartar Emetic in small and repeated doses or 1 gr in 1 pt. water or some pleasant drink and drank daily for 8 or 10 days will generally remove the dry and ictoride state of the skin with oedema of of the feet so commonly attending protracted

agues. The Muriat of Ammonia is also a valuable remedy for the removal of visceral indurations. The following is an approved formula ℞ Muriat. Ammonia ℥ss

Pulv Extract Glycyrrh. ℥j.
Tart. Antimonii gr s
Aqua font —— ℥viii m. ft. take a tablespoonful very four hours during the day

Iodine is another effectual remedy From 8 to 10 gtts of the Tinc should be given 3 times a day and a mild uninitating diet injoined We may generally prevent relapses. by persevering in the use of quinine for several weeks after the arrest of the Paroxysms. For this purpose 1 or 2 grs taken daily before breakfast will suffice. The patient should avoid if possible exposure to colds and damp air and remove from the influence of the malarious poison When agues assume a chronic Character a gentle Salivation if it should not stop the progress of the disease will prepare the System for the successful administration of Tonics

An Inaugural Dissertation,

on the

Functions of the Sympathetic Nerves,

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic,

of the

University of Maryland.

for the

Degree of Doctor of Medicine,

by

Wm. Bowers Crane.

of

Maryland.

January 25th 1848

## Functions of the Sympathetic Nerves.

Perhaps there is no department of Medical Science, which has recently been the subject of more careful observation, or profound research, than the Physiology of the Nervous system, and notwithstanding the great advances which have been made in our knowledge of the laws of innervation, by the labours of Sir. Charles Bell, Doct: Marshal Hall, and other Physiologists who have directed their attention especially to this interesting and important subject, much yet remains to be learned.

The difficulties attending the investigation of the functions of nerves, and especially the deficiency of our knowledge as it regards the essential character of the nervous influence, have ever served as impediments in our progress towards new truths, and last though not least in this catalogue, might be placed the numerous speculative hypotheses, which have from time to time been agitated, and which by diverting the mind from the rational and philosophical course of inquiry have served more to perplex, than facilitate the advance of knowledge.

Medicine truly has ever been a science of progression. Truths once developed afford data for new discoveries, and these instead of proving in themselves final and conclusive, ~~they~~ open to us (as it were) fresh avenues to the labyrinth of nature. Little perhaps did the immortal Harvey, when he unfolded the mysterys of the Circulation dream of the revolution which this knowledge would work in the whole Science of Medicine. It remained for the sagacious mind of a Hunter to trace the intimate and inseparable connection between this function, and the processes of Nutrition, Secretion, and their various concomitant changes.

And thus, when we return to the nervous system. The division of the Cerebro-Spinal into sensory or excitor and motor nerves, and the discovery of the reflex actions, have thrown new lights on the function of innervation, and justly placed the names of a Bell and Hall, with those of a Harvey and Hunter "high on the list of fame".

Experiments, conducted by the above physiologists and others, have lead to the conclusion (that in man) as

in many of the lower animals) there exists two distinct nervous centres; the Cerebro Spinal, Bichat's system of Animal Life. which ministers to the life of relation, and the Sympathetic, or Ganglionic, denominated by Bichat "the Nervous System of Organic Life - the functions of which I have chosen for the subject of my Thesis, and in the selection of this subject my object has been to acquaint myself with some of its important relations to Pathology;

From what is now known physiologists all agree I believe, in considering this system (Sympathetic) as distinct, though not separate, from the cerebro-spinal. It contains both kinds of nerve fibre, tubular, and gelatinous or gray, its mode of branching is essentially the same as the cerebro-spinal nerves. But it differs remarkably in the frequent formation of ganglia, in the course of its trunks and their ramifications. We say that though distinct these systems are not separate, but there is reason to believe that the connection is mutual, the tubular fibres of the cerebro spinal system being prolonged into the ganglia and accompanying their nerves.

while the gelatinous fibres at the same time, communicate, not quite so freely with those of the Cerebro Spinal axis, Messrs. Todd & Bowman seem to regard the connection as taking place solely through the Cerebro spinal nerves, "Certain filaments (say they) connect each spinal nerve to some portion of the ganglionic chain which lies on each side the Spinal Column and a similar connection takes place between the ganglia of the Cephalic portion of the sympathetic and the Encephalic nerves (vide Physiol: Anat:)

However this may be, all agree that such a connection exists and some have even supposed that this connection constituted the roots, by which the sympathetic takes its origin from the Cerebro Spinal system, while others (as if not satisfied with disproving the proposition of their opponents) have endeavoured to prove that this last, originates in the Ganglionic Centres. But probably the nearest approach to a correct exposition of the facts, is that given by Doct: Carpenter who seems disposed to regard the visceral ganglia (Cardiac and Semilunar) as the true centres of the Organic System, and the chain of ganglia lying along the Spine as intermediate

between these, and the Cerebro Spinal System. (Vide: Carp: Physiol: Page 122).

Beside the above facts furnished us by Anatomy, Pathology affords us many interesting phenomena, which conclusively demonstrate the connection between these two systems. and as — Anatomy has ever had a direct and controlling influence on the progress of Physiology; the demonstration of this fact, together with the distribution to the viscera &c. lead by a rational deduction to the inference that the Ganglionic nerves exert an important influence over the functions of those organs. The nature, extent, and manner of this influence, will be the subject of our future investigation.

As far as it regards the nature of the vis nervosa (whether exercised by the Cerebro Spinal or Ganglionic nerves) I can but reiterate the statement before made of its totally inscrutable character. Bearing many points of resemblance to the Electrical fluid and yet perhaps in as many being totally incompatible with it; it has hitherto escaped the most profound researches of the Physiologist, and must still be regarded as one of those "truths which are locked up in the

Bosom of our Creator, about which it would be idle for man to speculate.

In our observation of structure, and function, we are accustomed to associate certain properties with certain tissues; which properties are inherent; and by universal consent I believe to the nervous structure has been allotted the power of receiving and transmitting impressions, either central, or peripher-al, but of the nature of those changes or impressions, or of the the mode in which they operate, we shall probably ever be ignorant. The language of the illustrious Brown, though applied to another problem in Physiology, is equally illustrative of this, "We believe indeed (says he) with as much confidence, that one event will have for its consequent another which we have observed to follow it, as we believe the simple fact that it has preceded it, in the particular case observed."

But the knowledge of the present sequence as a mere fact to be remembered, and the expectation of future similar sequences as an original law of our belief, are precisely of the same kind whether the sequence of changes be in mind, or in

matter singly, or reciprocally, in both (vide Browns Phil: Human Mind).

Before commencing the consideration of the functions of the Sympathetic nerves, it may be proper for us to take in review the oft mooted question of the applicability of the name.

The term Sympathetic, is obviously misapplied if by it we are to understand, that this is the medium of all the various and multiform Sympathetic Sensations and Motions observable in the Animal economy - for it is well known that the Cerebro Spinal nerves are the agents in many of those highly interesting phenomena. It would for instance be absurd to attribute the pain in the Knee so frequent in that disease known as Coxalgia, to a connection of the Sympathetic nerves with the parts, when no such connection can be shown to exist, and especially when we consider that no sensory nerves are to be found in this System save those which are derived through its connection with the Encephalon.

Sympathies according to Messrs Todd, & Bowman may be classed under three heads. 1st Between dif-

ferent individuals. 2nd Those which affect the mind, and through it the body, and 3rd Those which are strictly organic, and therefore physical.

Now it is highly presumptive that the Ganglionic nerves are principally instrumental (though not solely so) in "those sympathetic movements of the contractile organs of the viscera" and in order to determine the medium of sympathy in a given case we must be guided by our knowledge of the source of innervation.

When we consider the influence of mental emotions on the organic functions we conceive it to be probable that the Imagination is the medium through which those sympathies between different individuals are produced, and the organic sympathies most probably result from the vascular and nervous connections of the parts.

Nutrition, (as I shall hereafter endeavour to show) is carried on by each tissue appropriating a definite part of the circulating fluid (as it were by an elective affinity) to its own reparation.

This being premised we can readily conceive how a cause acting through the medium of the Circulation might affect one particular tissue throughout the economy simultaneously, and this offers us the most probable solution of Sympathy of continuity. Again, we know that the application of a local irritant according to a well known Law of pathology (ubi irritatio ibi fluxus) will cause an increased flow of blood to the part irritated, so that not only the tissue to which the irritant is immediately applied but the surrounding structures will participate in this afflux. Thus taking in view the intimate connexion existing between the vessels and nerves (increase of function in the one exalting the polarity of the other) we can offer a rational exposition of the simultaneous affection of adjoining tissues - or Sympathy of Contiguity.

But of all the cognomens which have been applied, as substitutes for the obviously erroneous appellation of Sympathetic perhaps none are subject to less objection, and this being the one most generally employed, I shall

continue its use in the present connection.

Having premised those few remarks on the name I proceed immediately to the consideration of the functions of the Sympathetic nerves, and as a (point d'appui) I have chosen the definition of those functions given by Dr Carpenter in his Principles of Physiology- "The office of the S. Nerves (says he) is to combine and harmonize the muscular movements immediately connected with the maintenance of Organic Life, and to bring these in relation with certain conditions of the mind, (and there is also reason to believe though this is less certain) that it influences & brings into connection with each other the processes of Nutrition Secretion &c. tho- these like the muscular movements above mentioned are essentially independent of it."

The definition given by Dr. Carpenter would seem to coincide with that of Messrs Todd and Bowman in the use of the expression immediately connected &c in contra-distinction to the influence of the Cerebro-Spinal nerves on the movements of Deglutition, Defecation &c which we

may regard as mediately connected with those functions

In continuing my investigation of this subject I shall take up in the order they are presented in the def-inition. 1st that part of the function of the Sympathetic which ascribes to it, the power of combining & harmonizing the muscular movements immediately connected with the maintenance of organic life. 2d The mode in which it brings the organic functions in relation with mental con-ditions, and lastly its influence on the processes of Nutr-ition Secretion &c.

In approaching the first division of my subject, the difficulties involved are numerous, That such an influence is exerted by the Ganglionic centres, is perhaps as clearly demonstrable as any axiom in Medicine. But of its nature & extent it must be confessed our information is far from being so definite, In taking a connected survey of the Animal organization, there is nothing which tends more to excite our wonder and admiration, than the Univer-sal Harmony which we observe in the workings of so

complicated a machine, and as the enquiring mind looks beyond the mere sequence of events in its endeavours to arrive at a knowledge of the Ultimate causes which conspired in their production, innumerable theorys have been promulgated, purporting to explain and unravel the intricate phenomenon; and however unsatisfactory these may have been, yet they afford strong presumptive evidence that the Sympathetic nerves which supply the organs implicated in those functions, play an important part in maintaining this harmony of action, which part 'tis ours to investigate.

The functions of organic Life are undoubtedly independant of volition, and this for purposes, at once wise and conservative, and as an (a priori) consequence we find wherever muscular fibre is employed in the performance of those functions, it is of the non striated or involuntary kind, now the fact is well known that muscular fibre is endowed with the property of contractility upon the application of a Stimulus, and this <u>essentially</u>

independent of its connection with nerves. But it would seem that in order to maintain this state of contractility (or rather the physical conditions requisite for this) an essential condition is that the fibre be duly supplied with nervous influence. and observation would seem to favour the conclusion that the gelatinous fibres of Henle, (which may be looked upon as the distinctive element of the sympathetic system) constitute the source of innervation to the involuntary fibres which they in many respects resemble.

This then leads us a step farther in our inquiry, and in examining into the physiological conditions requisite for the development of the peculiar physical property of Muscular fibre either organic or animal (viz Contractility) we find that a due supply of arterial blood is indispensible and it is highly probable that this by regulating this supply (by increasing or diminishing the calibre of the vessels) that the sympathetic system of nerves operates in preserving the above necessary physical conditions and it may be well to consider the foundation of such

a conclusion. "The branches proceeding from the Sympathetic Ganglia (says Doct Carpenter) are distributed to the organs of digestion and secretion, to the heart, and lungs, and especially to the walls of blood vessels on which they form a plexus whose branches probably accompany their minutest ramifications" vide Carp: Elem^ts Physiol:).

We have now seen the mode of connection between the muscles of Organic Life, and the Sympathetic nerves in which connection I have made no allusion to that property of nerves which distinguishes them as sensory & motor and indeed upon this subject I would fain say nothing, In the Cerebro Spinal System the distinction is universally admitted, and known facts would render it higly probable that the Stimulus to contraction of the muscles of animal Life is strictly nervous-. But such is not the case with the G. System - True it has been found that irritation of the Sympathetic nerves will cause contraction of the muscular fibres of the alimentary canal but this probably depends solely on the nerves derived by this system from the Cranio-Vertebral

And indeed the involuntary muscles are most common-ly excited to contraction through physical stimuli applied immediately to themselves, and respond but feebly to the nervous stimulus. Regarding the white fibres however as being properly a part of this system, and supposing these to terminate in the spinal cord, we may have in them a chan-nel for the production of reflex-action, and thus also account for the absense of sensibility in health.

How then do the Sympathetic nerves combine, and harmonize the muscular movements of Organic Life? We observe that they regulate the supply of blood to the muscles - by their power of producing contraction or dilatation of the muscular and fibrous coats of the vessels - and that (in all probability) the white or tubular fibres may serve as media through which may take place reflex actions. It remains now for us to offer some explanation of the <u>manner</u> in which this system is made subservient to the production of consentaneous action, in doing which we must consider some of the outlines of its Anatomy -.

"We have before observed that a remarkable point of difference between the two Systems was the tendency to the formation of Ganglia in the Sympathetic. Now a ganglion differs from a plexus in having a collection of nerve vesicles or Ganglion globules interspersed among the nerve fibres, while a plexus consists of a simple anastimosis of the fibres. Experiment has shown that a plexus has no power of originating changes for when one of its nerves is divided above the point of Anast-imosis the function of that nerve is destroyed. But that a Ganglion has power to originate changes is evident from the fact that it contains both the essential requisites of a nervous centre viz- nerve vesicles, & nerve fibres as conductors and it is also evident from several Pathological Phenomena which we observe in the action of the Spinal Cord. (which in the lower animals constitute a chain of ganglia verry similar to the Sympathetic in vertebrata). Dr Marshal Hall has determined that the only necessary condition for the development of reflex action is the continuity of the excitor and motor nerves- with this chain of centres, and that these actions are totally

independant of any connection between the Cord and Brain would seem clear from the fact that the entire suspension of the function of the Brain affords the most favourable condition for their occurrence.

Thus then admitting the tubular fibre to form part of the sympathetic we may regard these Ganglia as so many centres for originating changes which being conducted by means of their nerves to the viscera through the Semilinar - and Hearts & Arteries through the Cardiac Ganglia, there exert an important influence in controling and harmonizing with each other the functions of those respective organs.

Another obvious arrangement for the production of this consent of the organic movements is found in the mode of formation and uses of a plexus. It was long since supposed by Sir. Charles Bell that plexuses were instrumental in the production of consentaneous action, which supposition derives confirmation from the fact that both in Man and the lower Animals this plexiform arrangement of the nerves is found wherever such unity of action has been observed.

So far as yet known Physiologists have failed to discover any such thing as complete fusion of one nerve fibre into another. but there is every reason for the belief that each runs a distinct, definite course from its central origin to its peripheral termination preserving throughout its individuality - Notwithst -anding each fibre thus runs its individual course, the exam -ples are innumerable of an interchange of these taking place between nerves that differ both in distribution and function and the resulting inosculation is known as a plexus - The importance of which in producing community of action we can readily conceive.

Messrs Todd & Bowman agree that by the frequent change of place that the nerve fibres undergo within the plexus they are brought into a communication with a greater number of muscles - and thus afford a medium for the production of con -sentaneousness of action - (vide Phisol: Anat:).

We have seen that one of the characteristics of the Sympathetic nerves was the plexiform arrangement of their fibres on the ramifications of the Arterys.

From these considerations then it would appear that the Sympathetic System of Nerves has an influence in "combining and harmonizing the muscular movements of Organic Life" (probably through its power of producing contraction and dilatation of the vessels implicated in those functions, and possibly by means of Reflex actions propagated through the tubular fibres-) and the anatomical arrangements which we observe subservient to this influence - are the plexuses formed in the course of the branches - and the Ganglia, which probably receive impressions and originate changes.

We now come to the 2nd position in the definition, viz: the mode in which the Sympathetic Nerves bring the Organic functions in connection with the mind. It has before been observed, that the functions of Organic Life are essentially independant of the Nervous influence. So long as food continues to be ingested and the Physical conditions necessary to the performance of those functions are maintained

(in maintaining which conditions we have seen the nerves to be important agents) the various processes of Digestion, Assimilation, Nutrition, &c - will continue to be performed.

But notwithstanding they are thus essentially independant; it has been demonstrated beyond contradiction, that the passions and emotions of the mind - exert a decided influence over those functions as exemplified in the Syncope which sometimes results from a mental shock (this being the temporary suspension of an organic function, that of the Heart) so also in palpitation, blushing, and its converse pale-ness - and in the increase of certain secretions under certain mental influences. Now it is quite obvious that there must be a channel - through which these produce their effects, and it is probable that this channel is afforded us by the Sympathetic nerves.

When we bear in mind that this System contains both Kinds of nerve fibre, the tubular in

all probability terminating in the Spinal Cord -
we can readily conceive how an emotion or excitement
originating in the Brain - might be propagated thence
through the Spinal Cord, or more directly from the
Sensorium by means of the nerves connecting this with
the Cephalic Ganglia to the walls of those minute
capillary vessels - the contraction and dilatation of which
afford a solution to the Phenomena above related.

Brousais whose theory of the functions
of the Sympathetic Nerves - (like all the other em-
anations of that great mind) is singularly beau
-tiful and ingenious says there is a "reciprocity of
Stimulation between the Encephalic & Ganglionic
nerves. that is they serve as excitors of each other."
Considering the Cords of the great Sympathetic as
continuous with the Cerebral Nerves "he says "like
the latter they must be Conductors of irritation" this
granted he concludes - "that irritation developed in
the viscera is communicated to the cerebral nerves

and thence to the Sensorium Commune - and that the irritations or volitions emanating from the brain are carried into the Ganglionic Nerves and penetrate by means of these latter into the tissues in which these nerves are distributed (see Brussais Physiol:).

That a reciprocity of stimulation does in a measure exist between these two systems must be inferred from what we have already stated - But if the Sympathetic be (as the Author states) continuous with the Encephalic - nerves - how are we to account for the absence of sensation in the former? To say that the same amount of irritation, which in the one excites acute sensation is insufficient to produce that effect in the other is but waving the question: and to explain this Phenomenon at all satisfactorily we must appeal to the teachings of Anatomy from which we learn that it is quite presumptive (proof of the Contrary being wanted) that the real termination of the tubular fibres is in the Spinal Cord. This being the case we can

accounts for the ordinary want of sensibility in those nerves - for it is well Known that the Brain is the only source of Sensation (Sensorium Commune)

It now remains for us to take a brief ~~consideration~~ survey of the influence of the sympathetic nerves on the Proceses of Nutrition Secretion &c. And here let us pause! for our theme has been Consecrated by the great achivements of the most gigantic minds - that ever illumined the arena of Science! - Prior to the discoverys which resulted from the Long and careful observation of Modern Physiologists - it was supposed that the vis nervosa was —— essential to the performance of those proceses, and the oft cited experiment of Doct: Wilson Philip was appealed to as conclusive proof - But that secretion and Nutrition are each independent essentially of the influence of Nerves is now clearly and indisputably demonstrated - and hence they are justly ranked among the functions of Organic Life

They would each seem to be carried on by the agency of individual cells which in the proces of Nutrition

appropriate a part of the circulating fluid to their repair-
and in that of secretion separate from this fluid certain of
its elements, or constituents, And hence we infer that the
proximate agents in all the changes of growth & decay which
are constantly occurring in the Organic Apparatus of man
are ~~equally~~ alike simple and wonderful as being, but the dev-
-elopment of the normal and constitutional function of
each component cell-.

We have not the time or ability to enter
into an examination of the processes of Nutrition or Secret-
-ion in all their Ultimate and extensive ramifications
and we must pass briefly (as our limits are already some-
-what surpassed) in review, the influence of the —
Sympathetic Nerves on those processes-.

That the influence of these nerves extends
to the molecular changes themselves. seems to be the idea
generally entertained by Physiologists and some have even
supposed that while the office of the tubular fibre is
to regulate the quantity that of the grey is to influence

the quality of secretion; From a priori reasoning we may suppose that this systems of nerves influences in a verry important degree thise function especially through its connection with the Arterial System as to quantity but untill we Know more of the nature of the vis nervosa, we cannot expect any defenite Knowledge as it regards the Quality of the Secretions. And it is probable that it influences the proces of nutrition only through its power of modifying the supply of blood. ——

An
Inaugural Dissertation
on
Rheumatism

Submitted
to the
Examination
of the
Provost, Regents, and Faculty of Physic,
of the
University of Maryland
For
the Degree of
Doctor of Medicine
By
William W. Cochran
of
Maryland
1848.

# Rheumatism.

After a review of the long & mixed array of dis-
-eases which are included within the range of the Practice of
Medicine, — I have been induced to distinguish among
them as the subject of my "Thesis" the formidable one
of rheumatism, I may at first have experienced some
hesitation, in my selection, but a moments considera-
tion enabled me to discern the superior claims of rheum-
-atism to my attention.

In the beautiful fictions of antiquity, the origin
of human ills was ascribed to the opening of Pandora's box,
from which, when fatal curiosity removed the cover, a host
of evils burst forth to the affliction of Mankind, leaving
naught but Hope behind, and for illustration it surely may
be said, that pre-eminent amidst that host of ills, stands that
direful affection "Rheumatism," Innumerable have been the

victims of this dread foe to human happiness, innumerable have been the weary footsteps it has compelled to drag, with lingering pain through a life, which to them was but a sad pilgrimage of woe.

The following observations shall be strictly confined to rheumatism in its acute form, and during the course of these remarks, I shall but give an epitome of the researches & observations of some of the most approved writers & practitioners of the day.—. In the first place I shall give the definition of the disease, in the second, speak of its Symptoms. third of its Cause & varieties in the fourth of the diagnosis & prognosis, & lastly of its treatment.

Definition. The word rheumatism, in its literal sense, means, "Fluxion", and it is originally derived from the greek word "ρεω" to flow, and "ρευμα" a fluxion, it was adopted when diseases accompanied with swelling were usually attributed to the flow of some special humour to the part affected, it has been used for ages to designate an affection which has so much of distinct character, as to justify its be-

-ing considered a special disease, so loosely has the term been applied, that a host of ailments, with no character, in common save that of pain, have been classed under it, & much both of false experience and bad practice has thence resulted. Diseases called rheumatic have been relieved by stimulant remedies, which from the character thus acquired have been empirically resorted to in states of constitution for which they were utterly unsuited.

In acute rheumatism, a disease intensely inflammatory, we have known the use of the most powerful stimulants confidently urged by well-meaning but misguided friends, who in support of their prescription, have pleaded the wonderful cures which they have seen their favourite specific perform in what they assumed to have been rheumatism; thus misled by a name to recommend in active inflammation what could have benefitted only in a totally opposite state of the system. As many affections really rheumatic, present, an equivocal character which to superficial observers too often appears to justify the use of stim-

-ulants, it is very necessary to discriminate the real disease, so as to distinguish it from those diseases with which it is liable to be confounded, and however difficult it may be to class the latter, it is better to leave their place in nosology unassigned, than, by ranging them under the head of rheumatism, to beget confusion whence clearness & precission are of the first importance.

Symptoms. — Generally the first symptom in this malady is, in the great majority of cases, severe pain in the insteps and ankles, which is sometimes, but not always attended with shivering — When the attack is sudden, as generally happens, the affected parts become, in the course of a few hours, uniformly swollen, tense, & Elastic, and soon afterwards the integument is suffused with a bright rose coloured blush, mostly in patches, the neighbouring cutaneous veins being at the same time turgid, the tense & elastic condition of the parts soon gives place to a flaccid & puffy state, and while this change takes place the pain abates, The knees are attacked soon after the ankles; the affected limbs are immediately & completely disabled,

so that in many cases the patient is obliged to be helped to his bed soon after the accession of the first symptoms, the slightest motions of the rheumatic limbs occasions excruciating pain, the upper extremities become next affected, and the patient is thereby rendered incapable of movement, a circumstance which causes a peculiar & characteristic posture. — Fever comes on with or soon after the local symptoms, & increases with them: it is attended with profuse sweating when the pain is severe, and this sweating, far from affording relief, is more profuse, as the pain increases, the pain is in most cases aggravated by warmth, & usually much more severe at night than by day: the fever, too, is much greater at night, when the patients linen is often drenched with perspiration which has a sour and pungent odour, during the day there is also much fever. the face is flushed: the pulse which is seldom less than 90, and sometimes as high as 130, is hard and full: there is loss of appetite: urgent thirst, and the urine, scanty & high coloured, deposits, on cooling, an abundant brick-coloured sediment.

The patient remains in this state until nearly all the joints of the extremities have become affected in their fibrous textures: tendons & sheaths of muscles also suffer, & effusion takes place into the cellular tissue, and synovial capsules in contiguity with these several structures. The affection of each part does not usually continue during the whole course of the disease, after a certain time it subsides, but generally returns at least once. The number of parts affected at the same time is considerable, and, with few exceptions, much greater than the gout.

Causes. The most frequent exciting cause of rheumatism, is suppressed perspiration from cold or sudden atmospheric vicissitudes, or the application of cold to the body when unusually heated, Cold is more liable to produce this effect when combined with moisture, whence a cold & humid atmosphere, and wet or damp clothes, are the most frequent sources to which rheumatism can be traced. It is also on this account that the disease is so much more frequent during the

the damp and variable months of Spring & autumn, than in the more mild & equable season of Summer. Indeed rheumatism is almost peculiarly a disease of cold & variable climates — Its occurrence in the warm & more uniform latitudes being comparatively rare. — Mercury is frequently accused of, being a very great cause of rheumatism - it is doubtful, however if it is ever of itself the exciting cause of this affection, although its very especial tendency to predispose the system to the morbific influence of low & variable temperature is unquestionable, & it is by this effect alone, probably, that the use of mercury is so apt to be followed by rheumatic affections

When the body is predisposed, a very transitory exposure of this kind that is Cold, as for instance when parts of the body are subjected to currents of cold air for any length of time will suffice to bring on an attack. Few will wholely escape some contingent suffering. Of the fact that rheumatism is so excited there can be no doubt; when, however, it is reflected, that for every instance of this disease, so induced, numbers

continually endure a much greater exposure to the alliged cause without any disease ensuing, too much importance should not be attached to it. — Even hereditary liability has been class-ed among the predisposing causes, and possibly with reason. moreover a predisposition is said to be given by many circumstances such as, age, temperament, climate & season of the year. Also the irritation of the system by the abrupt discontinuance of the discharge in Gonnorhea, is very frequently a very great predisposing cause, so also any other flux. and also frequently induced by the repercussion of eruptions &c. &c.

Varieties—. By many writers this disease is divid-ded into two varieties, for instance, fibrous or diffused, and synovial rheumatism. In the fibrous variety, then, the inflammation commences in the immediate neigh-bourhood of one of the larger joints: not in the joint but near it, It attacks the tendons, facica, ligaments, and possibly also the muscles, there is not at first much redness or swelling: but after the pain has been of some

duration, there is a puffiness around the parts affect-
-ed caused apparently by turgescence of the bloodvessels, and
at length slight pitting, or oedama, may supervene, from
effusion into the surrounding areolar tissue; & what
redness is present is disposed in streaks following
the course of the tendons.

It is also in this variety that the inflammatory
fever runs so high: that the tongue is so furred; that the round,
full, bounding pulse occurs: that the profuse spontaneous, acid
perspirations break out, which exhaust the patients strength
without alleviating his sufferings: that the urine is so high
coloured, & deposits a copious sediment like brick-dust.

In the synovial form, the fever is either less intense
from the beginning or soon moderates after the joints begin
to swell, the tongue is less foul: the patient sweats much
less, It is also to this form that the term rheumatic gout
is applied - gout & rheumatism are very similar in kind,
and what has been called synovial rheumatism, while it

forms a connecting link between the two, & partakes of the character of both, is more nearly allied to gout than it is to rheumatism.—

In conformity with this belief, it has been noticed that the tendency of the inflammation to settle upon the Cardi-ac membranes is much greater in the fibrous than in the synovial disease, this also is the most important difference.

Diagnosis— The diagnosis of this disease may be easily disposed of. the only disease with which it is like-ly to be confounded with is gout, in treating of which the distinctive character of each malady has been suffici-ently noticed. formerly discrimination in this respect was deemed of the highest importance, the prevailing theories of gout demanding a course of treatment differ-ent from that to which rheumatism was subjected, In the present day a juster pathology of gout assimilates the treat-ment of both diseases sufficiently to render extreme accura-cy of discrimination of very slight moment.

Prognosis. – Being so prompt dependent on the promptitude with which suitable treatment is resorted to, that any remarks on the natural course or duration of the disease are of little worth, Generally speaking, there is little or no immediate danger to life, there being no inflammatory disease, of equal intensity which so little deranges the vital functions. This most probably, is owing to the disease expending its violence on the joints or other external parts, and being little prone to attack the viscera. The peculiar character too of the inflammatory action too and the little liability which it has to pass into suppuration, or to undergo the other changes consequent to phlegmonous inflammation, may account for the safety with which even the metastasis of rheumatism to internal parts is borne. It is certain that such metastasis is not attended with so much danger as the severity of the symptoms would seem to denote.

If an attack of rheumatism be treated at the onset with due activity & discrimination, it may be relieved

in a very few days, without the affected joints sustaining any permanent injury — for if not radically relieved in its early stage the disease, even when of no extraordinary violence, may become so confirmed as to yield afterwards with difficulty to the most active & judicious use of remedies, while progressive disorganization of joints may entail protracted suffering and lasting decrepitude.

Treatment. There is a great variety & greater discrepancy in the plans of treatment recommended by the numerous writers upon this subject, so much so, that I am constrained to give a synopsis of the different courses pursued, by them; in the first place I shall speak of the antiphlogistic. no single plan or remedy is yet known which has the power of cutting short the course of this disease. — The objects to be kept in view are, 1 to limit as much as possible the dissemination of the local affection, and thereby, to diminish the chances of rheumatic inflammation of the heart. 2. to moderate that inflamonation in those cases which it may occur, with a view to prevent or diminish the amount

of morbid productions, as well as to avert immediate danger: 3. to diminish the severity of the affection of the joints, and to prevent it from continuing in a chronic form. 4. to procure sleep.

Our principal & leading indication is, therefore, quite clear; we must endeavour to moderate fever by appropriate means, none are so well qualified to effect this as general bleeding, which has the additional advantage of mitigating the severity of the local affection in those parts which already suffer. The measure of this remedy must be regulated by the degree of fever present, & by consideration of the resources of the patient, frequently it is oftentimes necessary to bleed twice, before any impression can be made upon the disease, so as to relieve the patients sufferings.

Purgatives may be associated with bloodletting, but some evils attend their use: namely, the necessity of frequent movements & some degree of exposure to cold: these evils may however, be rendered very slight by good nursing, & then the moderate use of saline purgatives is attended with very good effects, A full dose of Calomel, followed by a draught of Senna & salts, may be given to begin with, - after that an oc-

-casional draught may be given to keep the bowels open, which of course will be the more required, on account of the opiates which will be found necessary to be given - they generally do not produce any bad effects - and the comfort they afford to the patient is so great that he is always desirous of continuing their use. Such is the general treatment to be adopted in acute rheumatism. - generally the great number of parts which suffer precludes the possibility of local treatment for all, and it must therefore be reserved for those in which the affection may be very severe: or of unusual severity: - In general it is most required for the hands and the feet, the joints of which are more apt than any others to become the seat of permanent effusions & rheumatism in its chronic form. - Our practice must however be guided by the circumstances mentioned - Leeches varying for 6 to 12, according to circumstances, should be applied to, or near the affected parts, when the hands or feet are the subject of treatment, the leeches should be applied to the wrists or insteps, and the bleeding promoted in the usual way. In cases in which there is much pain in particular parts, & local bleeding is, for some reason, deemed, unadvisable or unnecessary, much re-

-lief may sometimes be afforded by lukewarm poultices, & their effect may be improved by impregnating them with Tr. Opii. or the decoction of poppy.

If in spite of these means, the affection of particular joints continues after fever has subsided, nothing affords such signal relief as blisters, they should not be kept open, but repeated after short intervals as the case may require, it is when effusions into the joints give indications of becoming permanent, that the beneficial effects of blisters are most conspicuous. The diet is easily regulated, In the early stage of the disorder, fever & loss of appetite interdict all solid & stimulant food, dilluent and cooling drinks must be the sole support of the patient, and these may be varied to his taste: gruel, whey, weak broth, beef-tea, & the like, are the first articles of nourishment to be allowed, - In short the diet must be the same as in all acute diseases of an inflammatory type the only deviation from it, which it is proper to make, is an earlier return to substantial food; especially in simple cases, for it will be found that when the strength of the patient is restored

early. he will be less susseptible of the impression of cold in convalescence than he would otherwise have been.

Upon commencing this subject I had determined to speak of the various remedies used in this disease but I find my space will not allow me, to barely mention them. which are spoken of highly by some writers, viz. Tartar Emetic. Colchicum, Opium alone, and with Calomel, and Phosphate of Ammonia, a new remedy lately discovered by our esteemed fellow townsman Dr. T. Buckler. of its various applications to this disease & gout, I can only just refer, he found immediate & permanent relief by using the following formula. Rx. Phos. Ammon ℥ss. to ℥j. Aq. distilat. ℥vj. M. A tablespoonful of this solution given every 4 or 6 hours, for 36 or 48 hours never failed affording relief. for further particulars respecting the use of this remedy, I beg leave to refer. to Braithwaites Retrospect part 13. page 154.

An
Inaugural Dissertation
On
Acute Rheumatism
Respectfully Submitted
To The
Provost Regents and Faculty of Physic
Of The
University of Maryland
For The
Degree of Doctor of Medicine
By
Lamy C Huntington

Like gout the term rheumatism
is one of the products of the humoral
school of pathology. It signifies
literally a fluxion.
On account of its frequent occurrence
in this climate and the deadful-
ity which follow it. Rheumatism
has properly commanded the strict
attention of the profession.
Additional interest has been attached
to the study of this disease since
1788 when Dr Pitcairn first noticed
and pointed out the fact to his
pupils at St Bartholomews that in
the acute form it fixes on the fibr-
ous textures of the heart and causes
changes in their structure which —
greatly interfere with the functions
of that vital organ. Various persons
of high standing in the profession
have claimed the merit of this valuable
discovery. M. Bouillaud one of the
Members has been particularly loud

in his pretensions. Sir D Dundas in 1808 read a paper on the subject before the Med Chirurgical Society in which he considered the heart affection not as occurring by Metastasis but as coming on at various periods of the disease. He also by reference to Morbid anatomy proved that the lining membrane of the heart was liable to be affected as well as the pericardium.
Drs Wells and Odier of Geneva also made important remarks on this subject. It is now beyond doubt that the close connection between disease of the heart and acute Rheumatism has been observed for many years by British Physicians and that they advanced its history as much as could be reasonably expected without the aid of auscultation. Then certainly has been a vast deal of false opinion and bad practice resulting from the loose manner in which the term Rheumatism has been applied.

because so many ailments with
no other characteristic symptom except
pain have been classed under
it, and many diseases bearing
the name of rheumatism have
been cured by stimulants which
by that means have gained for
themselves a reputation and have
been used empirically when states
of the constitution positively con-
traindicated their employment.
Such for example as acute
disease when it is intensely
inflammatory persons have
used the most powerful stimulants
with a benevolent design and have
urged the continuance of their
application by relating the
wonderful cures their specific
has performed in what they
thought to be rheumatism.
Thus misled by a name to prescribe
in active inflammation a remedy
only applicable in the opposite

condition. Now as the most important
duty of the practitioner in this disease
is to form a clear and perfect diagnosis
and the difficulty being increased
by many affections, daily rheumatic
presenting an equivocal character
which to superficial observation
would seem to justify stimulants
make it absolutely necessary to
discriminate the real disease
so that he may distinguish
it from the diseases that it
is liable to be confounded with.
The causes of acute rheumatism are
cold and moisture which are greatly
exaggerated when acting upon a
patient who has the hereditary
predisposition or rheumatic diathesis
or who has suffered one or more
attacks of the disease previously.
age also materially affects the
predisposition as children and
old persons seldom have it those
who have been debilitated by any

Cause to a very great degree. thus
being more susceptable of taking
Cold are in danger of being
rheumatic if exposed to any of
the exciting agents. Moisture is not
a direct exciting cause itself but
only acts by increasing the cold as
it is a better Conducter than the
dry air. The period of life at which
it is most common is between puberty
& old age. What ascribes the immunity
of children to the soft Condition of
the fibrous tissue, which, not having
acquired its ultimate mode of vitality
was, he thought, unapt to develop those
Maladies of which it is the peculiar seat.
Some have mentioned nutritious diet,
or high living, as one of the causes of
this malady; but the best proof that
this theory is erroneous is, that it is
incident to persons of the most
various constitutions and habits of life.
It is reasonably supposed that
Seasons and Climate have also

something to do in producing this disease, as it occurs more frequently in the east, than in the west of England. No one has yet satisfactorily explained this circumstance; therefore it is still open to inquiry. After naming all the theories concerning the exciting cause of rheumatism, Cold is most undoubtedly the true Cause in Nine Cases out of ten. Therefore Men are more frequently attacked than women, in proportion to their greater exposure to this exciting cause. Anatomical Character of Rheumatism. Except pneumonia, no one of the phlegmasiæ exhibit the characters of inflammation more strongly, for when the blood is drawn from the arm and allowed to stand in a vessel, presently the buffy coat More uniformly than in rheumatism. Some pathologists say that there is one tissue.

which is never wanting as an element
in acute rheumatic inflammation,
that is, the fibrous, from which,
they say, the others as the synovial
capsules and bursæ, the serous
membranes and the lining membrane
of the heart become secondarily affected
only by virtue of their intimate
connection with, and being supported
by, the fibrous tissues. This has been a
question of warm & protracted debate,
and when it can be established
will greatly facilitate the inquiry
into the true character of the local
affection. We can, therefore, best determine
now the character of the local affection
by studying its effects in those parts
or situations where serous membranes
become implicated, the true import
of those lesions being well known
to pathologists, and they agreeing
almost unanimously with regard
to them. It must be utterly impossible
to discriminate between common

inflammation of the pericardium and rheumatic pericarditis after death by merely looking at the membrane. as in both there is more or less serous effusion. false membranes and sometimes pus deposited. on the lining membrane of the heart it is just as satisfactory. This evidence with the symptoms during life only serve to corroborate the opinion that rheumatism is a specific inflammation. with regard to the anatomical lesions of joints the opportunity of examining them immediately after an attack of acute rheumatism is out of the question as patients never die of the joint disease alone. but the change has occured by the patient being carried off by some other disease. Authors who have made post mortem examinations, and published them, show considerable discrepancy. Some have found false

membrane adhering to the synovial capsules of the knee, others a simple increase of the fluid without alteration of character and the membrane itself slightly red and somewhat thickened. M. Chomel in speaking of a case which had died two or three days after an attack of acute rheumatism of the joints says that in one knee there was slight traces of synovia which was viscous and semi transparent, but the interior of all the joints was white and smooth. This pathologist also believes that many authors have spoken of suppuration as being one of the terminations of Rheumatism in the joints, when it was not that disease, but phlebitis. In fact, pathology throws very little light on this singular Malady. There are many points connected with it yet undecided, and which, in all probability will remain so

Symptoms. This disease seldom comes on suddenly. It has most generally a prodrome of two or three days furnishing stiffness and headache It sets in with a chill followed by fever, flushing of the face, pain in one or more of the joints. More frequently in those of the lower extremities as the ankles. When it comes on suddenly, as it sometimes does, the parts become uniformly swollen tense and elastic. The skin acquires a bright rose colored blush which shows itself in small patches and the superficial veins surrounding the affected parts are turgid. Sometimes the pain is of a sharp pricking kind, at others, a dull gnawing pain and rendered exquisite by pressure. It may confine itself to one of the joints only or to the whole extension of the body but when this happens one side is more diseased than the other. The hip or shoulder-joints do not get

rea and swell like the other articulations.
When the disease is confined to the
ligaments the swelling is hard and
unyielding when in the synovial
membrane it is fluctuating and soft
to the touch in proportion to the increase
of the synovial fluid. It is also fixed
and less apt to change its seat to the
internal organs therefore rendering it
less dangerous. In the fibrous the
fever is high and intense, the skin
hot and moist, the face pale and
the tongue furred but never covered
with sordes. The urine is scanty high
coloured and acid. increased headach
want of sleep from the extreme pain
which always increases with the
perspiration at night, which is very
profuse and of a peculiar sickning
smell; but does not relieve the pain,
but seems to increase it. The blood is
cupped and buffed to the last. When the
disease is of the ligamentous kind
any of the internal organs are

capable of becoming its seat. but
when such is threatened either by
simple retention or metastasis it is
the duty of the physician to ward
them off by the treatment demanded
in those inflammations arising from
any cause whatever. the most common
complications are those of disease of
the membranes of the heart. When this
has actually happened, there will be
sudden pain in the praecordial
region. palpitation. difficulty of
breathing and sense of oppression.
Now if the chest is carefully explored
the sounds of the heart will be
abnormal, and they will vary
according as the inflammation is
in the pericardium or lining
membrane of that organ. the point
at which the cardiac disease comes on
varies from the first to the third week
and when it sets in the joints,
those get well but continue
as in the commencement;

Diagnosis. This form of rheumatism is more easily distinguished from gout than any of the others. but still there sometimes occurs difficulty in making it out. This disease is called the poor mans gout, because gout seldom occurs to the lower classes. owing to their not indulging sufficiently at the table. the fever is more of the remittent, the pain and swelling greater. and — desquamation follows the swelling in gout making it much the most violent disease of the two. after getting the history of the patient the diagnosis may be made out with comparative ease. The prognosis is by no means grave, when unaccompanied with other disease. Treatment. There is no antidote to this disease; but as in all other affections that are common, many drugs have been recommended as Specifics. and as Professor Power wisely remarks that when a host of medicines are extolled each of them as being a curative in

a given disease, no one of them justly deserves the title. Now the first indication for treatment in this disease, when the fever is high and the constitution robust, is general bloodletting and purgation, and the sooner they are applied the better. For there is no disease in which antiphlogistic means are more imperatively demanded than this. but care should be taken in employing these powerful agents, lest convalescence is retarded or complications brought on. In the fibrous kind from 10 to 20 ounces of blood may be taken from the arm and followed by a saline purgation as Senna & Salts at the same time the heart should be watched closely. In the synovial. Cups & leaches must be applied to the affected joints; also opium to relieve pain, and after a good purge, opium may be given to produce sleep. guaiac. colchicum Carb of ammonia and many other remidies are used with benefit. But the Physician must let the indications of the disease, & the present state of the patients System, control him in his treatment

Dr C Worthington

An
Inaugural Dissertation
on
The Specific effect of Ergot
Submitted to the Examination
of the
Provost, Regents, and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by

R. S. Welsh
of Baltimore County
Maryland

To Richard H. Thomas M. D.
Prof. of Obstetrics
University of Maryland

I take the liberty of inscribing to you the following pages as an expression of my grateful remembrance of the value of your instructions, and of my admiration for those excellencies which call forth the warm regard of all who are acquainted with your character

The Author

Medical Science or more properly speaking those diseases strictly medical after being tossed upon the stormy sea of Theory many centuries yet remain unmoored and enveloped in much mystery and uncertainty

"Cabined, cribbed, confined,
Bound in by saucy doubts and fears."

While on the one hand it must truly be acknowledged that the untireing zeal, industry & energy of Louis, Andral Chomel and a host of undying names have done much to enlighten modern times by their pathological researches — on the other it may be candidly confessed, that much remains shrouded in impenetrable darkness.

The public view, the physician with tacit complacence and yield him their approval more from custom than from any positive knowledge of his skill.

The weekly bills of mortality disclose too plainly to their view that "Approbrium medicorum" consumption, boldly striding

in our midst and embracing in its fatal hold the youth and beauty of our Country whilst the most active remedial agents administered by skilled & learned hands prove abortive in arresting the progress of the unfortunate victim to an untimely grave.

Nor is this prejudice against physicians or rather this satirical feeling that abounds in the community against medical science confined alone to the uneducated for Abercrombie in his justly celebrated work on the intellectual faculties thus represents the state of medical science.

"Nature is fighting with disease — a blind man, the physician, armed with a club comes to settle the difference. He first tries to make peace, when he cannot accomplish this he lifts his club and strikes at random; if he strikes the disease he kills the disease; if he strikes nature he kills nature.

We do not intend to infer from this that the physician is useless — medicine inert — but we do contend that those in any community who give to the medical man his just and

liberal meed of praise are indeed few and far between. Nor will we be surprised at this incredulity in the Physicians power when we recollect how few medicines there are in the countless list of the Materia medica that act specifically or locally upon any organ of the human body

It is solely in this way that the mass are capable of understanding and appreciating the magic potency of remedies — They perceive a medicine prescribed and a predicted effect follow, which at once appeals forcibly to their senses & endows the Physician with an importance which he would fail to gain by an explanation of the most elaborate prescription or technically phrased Theory.

Those remedies which slowly & unseen work the most important changes in the animal economy fail to make decided impression on the untutored mind, and should disease yield to remedial management in all probability the salutary change would be attributed to chance, or some simple tisan surreptitiously administered by the nurse, & thus the Physician be robbed of that credit so justly earned

We who have devoted some years of our Time & energy particularly to the Study of & Medicine & its kindred Sciences are prepared by education to understand the immense resources of our art — the incalculable benefit bestowed on Society by The Profession, and the respect & honor due to every conscientious Physician. But Society at large have no such opportunity, our art is measurably hidden from their view & They are consequently left to judge from the effects of remedies alone, too often biased by absurd and vulgar prejudices, hence it must ever be a desideratum with The practitioner to have as many as it is possible to obtain of those remedies at his command that display to the observer The power of his Skill and The value of his calling

We have our cortex Peruvianna & Sulphur The one a Specific, if The term is allowable, in febris intermittent. The other in Psora, and with pride and rejoicing do we hail The introduction into The American Materia medica of The potent article selected for The Subject of our Thesis — The harbinger of

of a new era in obstetrics — the remedium magnum of the humane accoucheur.

What horror and repugnance must fill the mind of every christian in contemplating the extraordinary expression of a learned body, of London, who pronounced this branch of Medical Science to be "unbecoming a gentleman &c"

The practice of Midwifry in our inex=perienced imagination appears the most exa=cted ~~and~~ that engages the mind of man, to relieve the patient suffering of gentle woman — "the last best gift of God" — a duty paramount to any other in the practice of medicine or Surgery.

That we possess in Ergot a most vigorous remedy for this purpose we hope to prove

Secale Cornutum, Secale Cornic=ulatum, Clavius Secalenus, Mutterkorn, Kronzapfen of the Germans, Ergot. — Seigle Ergote of the French, is a black curved mo=rbid excrescence resembling the Spur of a fowl which is found in the Spikes of the Secale Cereale of Linnaeus — the Rye

plant of our own Climate. Decandolle Considers the Ergot to be a parasitic vegitable of the tribe fungi-genus Sclerotium - the scale that has ~~this~~ this smut, or diseased grow the when powdered excites sneezing - has a mealy rancid nausous & biting taste which remains a long time and causes the mouth and fauces to become dry, which sensation is not removed by watery fluids, but is soon removed by milk.

The cause of this excresential disease in Rye is unquestionably an insect that perfora-tes the grain - feeds on its amalacous part and leaves its poison in parenchyma, hence it is full of excoriations or perforations made by the insect. Rye, though more frequently affected by this morbid excrescence, called by the French Ergot, from the resemblance to the spur of a cock is not the only plant so diseased as various species of grain & grasses also have this foreign appendage and many curious instances are recorded where inferior animals have suffered from the peculiar effects of this poison.

According to Vanquelin it contains

a pale yellow colouring matter, an acid probably phosphoric and a vegito animal matter.

The professors are indebted to Doctor John Stearns of Saratoga County new York for this wonderful remedy into the American Materia Medica Since which time it has not failed to receive that opposition which has attended many of its valuable predecessors, and which would long Since have been doomed to oblivion were it not established upon a basis

= "As Whole as the marble
- As founded as the rocke
- As broad and general as the casing air"

Viz: that of its own merits. Among its avow = ed and bitter enemies we may be permitted with reverence to mention the late lamented Professor of the Obstetrical Chair of this School - Richard Wilmot Hall, a gentleman who is endeared to us, as well by his urban = ity of manners, as by the many lessons of wisdom obtained from his lips, and whose long experience entitles his opinion to

much weight.

That this drug has failed in the hands of many who have administered it, we do not doubt, and a reasonable solution to the confli=cting testimonies respecting it, may be traced we apprehend, to the uncertainty of obtaining the genuine and properly preserved article. As obtained from the shops it is not only often adulterated by the original vender or the whole=sale druggist before it reaches the jar of the retail apothecary, but frequently is many years old & exposed to the atmosphere in a loosely covered vial, whereas it is necessary, in order to obtain its full virtues that it should be of the same years growth and be carefully preserved from contact with the air in a tight stopped bottle, hence the discrepancy in regard to its influence. Some Surgeons Accoucheurs have considered it necessary to add camphor to the Ergot as a preservative — a precaution sugges=ted probably from a recommendation of Doctor Bright's published in No 141 Edenburgh medi=cal and Surgical journal, who says that if Camphor be mixed with powdered ergot it

Completely prevents the formation of Animalcu=li &c

As there is no drug of more real importance than Ergot so is there none more liable to become injured in its remedial properties, and the non success of practitioners may generally we think be found to consist in insufficient care being taking in its preservation,

In a letter from Doctor John Stearns to Doctor S. Akerly dated Waterford January 25th 1807 is the following article in relation to the operation of this drug

"In compliance with your request I hereby transmit you a sample of the pulvis parturients which I have been in the habit of using for several years with the most complete success, it expedites lingering labour and saves the Accoucheur a considerable portion of time without producing any bad effects upon the patient. The cases in which I have generally found the powder to act well, are where the pains are lingering — have wholly subsided or are in any incompetent to exclude the fetus.

Previous to its exhibition it is of the utmost conse=quence to ascertain the presentation and whether

any preternatural obstruction prevents delivery; as the violent and almost incessant action, which it induces in the Uterus precludes the possibility of turning. The pains produced by it are peculiarly freeing, though not accompanied with that distress and agony of which the patients frequently complain when the action is much less.

My Method of administering it is either in powder or decoction. In powders I give from five to Ten grains, some patients require larger doses, though I have generally found these sufficient. If the dose is larger it will produce nauseas & vomiting. In most cases you will be surprised with the suddenness of its operation it is therefore necessary that you be completely ready before you give the medicine as the urgency of the time will allow but a short time afterward — Since I have adopted the use of this powder I have seldom found a case that detained me more than three hours — other physicians who administered it concur with me in the success of its operation.

The Modus operandi I feel incompetent to explain — at the same time that it

augments the action of the uterus it appears to relax the rigidity of the muscular fiber.

On examining a granary where rye is stored you will be able to procure a sufficiency from among that grain.

We would despise ourself could we detract from the above discovery, but we think there are some expressions contained in the above quoted letter which should be marked as being faulty in the extreme.

That he should have administered the Ergot to save time & accomplish the delivery in three hours is a practice too culpable to admit of consideration except in terms of the strongest condemnation.

Doctor Stearns certainly could not have perused the work of good old Denman or he could not have had the hardihood to interrupt the harmony of nature by expediting natural labour to save a few hours.— unquestionably the time of the practitioner is valuable, but the life & well being of the patient is still more so. and that both are jeopardized by the interference of Art in

Natural labour is too palpable to be denied by even Dr Stearns himself.

In reg and to the virtue attributed to it by Doctor Stearns, viz; That of relaxation of the muscular fiber, we do not give the least credence, for we cannot conceive of an augmentation of the action of the uterus which is synonimous with Contraction & with relaxation of the muscular fiber. We feel however with Doctor Stearns, "incompetent to to explain its modus operandi", but we believe There is scarcely any doubt, That, its peculiar effects upon the uterus are produced Through The nervous System, since even in men it will occa = sion, in large doses, giddiness, Spasms, and convulsion

Its operation on the uterus is doubtless Throu = gh The Medium of The Sympathetic nerve.

Since The introduction of This drug There is scarcely an article in the Materia Medica upon The the Character of which The minds of The profession in This Country are more fully made up than upon this.

The principles that regulate its employment are all important.

It may be prescribed in the following manner and cases

R. Pow. Ergot ʒj
Fiat pulv. iij

one every 15 minute

First, when in lingering labour, the child has descended into the pelvis the parts dila=ted and relaxed, the pains having ceased or being too inefficent to advance the labour - there is danger to be apprehended from delay by exhaustion of strength and vital energy, from hemorrhage or other alarming symptoms. 2. When the pains are transferred from the uterus to other parts of the body, or to the whole muscular system producing general puerperal convulsions, 3. when in the early stage of pregnancy & abortion bec=omes inevitable, accompanied by profuse hemorrhage and feeble uterine contractions. 4. When the placenta is retained from deficiency of contraction, 5. In patients liable to hemorrhage immediately after delivery, 6. when hemorrhage or lochial discharges are too profuse immediately after delivery

and the uterus continues dilated and relaxed without any ability to contract.
7. In conjunction with artificially rupturing the membranes bringing on premature labour as a method of preserving the life of the child, without adding to the danger of the mother – a practice first proposed by Denman and which has since received the general approbation of the profession in cases where the diminution of the pelvis are such as to preclude the passage of a full grown child and yet sufficiently large to admit one of seven or eight months gro.th.

It is strongly contraindicated:
1. by earliness of stage; 2. rigidity of soft parts; 3. unfavourable conformentation 4. when there is head symtoms or much general irritation; 5. any presentation that requires turning.

The well known effects of the Ergot of Rye in producing gangrene & sloughing has given rise to much discussion with much timidity in its use, we think however,

That the opposition on this score is entirely unfounded, as the specific effects of the ergot in producing what, Good, calls milder mortification — gangrena ustilagenea" follows its use in small and repeated quantities for a long period as an article of food, no cases are on record where gangrene has resulted from one or two large doses. It is stated by some few that temporary prepure combined with this specific effect would produce ulceration of the vagina; but this is clearly not the case, as it has been used in many thousand cases with no such result.

Ulceration from simple prepure, as an extremity for instance, on the walls of the vagina is not uncommon where ergot has never been administered, and not more so when it has.

Much has also been written upon the poisonous effects of ergot on the child, but we think reason preponderates in favour of attributing any injurious effect in these cases to prepure, rather than any physiological influence on the child.

Whether it is given, as it often is early in labour before the child is descended in the pelvis injurious effects are likely to follow

The unremitting uterine action caus = ed by the ergot would exert such impure on the circulation of the infant, either directly or through the umbilical cord as to frequently destroy the child.

The delivery occurs so soon after its admin = istration that it is unreasonable to suppo = se any prejudicial effect should be comm = unicated to the child through the mid = ium of the blood.

Doctor Waller of the medical Society of London has not found by a series of experiments instituted for the purpose, that the use of the Ergot has been followed by the delivery of more dead children than where it had not been given

An

Inaugural Dissertation

on

Pneumonia

Submitted to the Examination

of the

Provost. Regents. and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

By

Grafton A Claggett

of

Maryland

February 1st

1848

# Pneumonia

Is an inflammation of the substance of the Lungs. There are three well marked Stages of Acute Pneumonia. First Simple Engorgement. Second Hepatization. Third Gray Hepatization

The first Stage. Simple engorgment is characterized by the lung being of a livid appearance. crepitates under pressure. though less than in health. retains the impression of the finger. and when cut. exudes copiously a bloody serum. it is more compact. but less tenacious than in health. but yet. it floats in water. the cells are not obliterated. they are somewhat obstructed by extravasation. but still contain air. The condition resembles the engorgement occasioned by the gravitation of blood at the close of life. but the colour is more red, and the softening greater. when this disease continues in progress it passes in the condition described in the following.

Second Stage Hepatization. the lung becomes solidified. is impermeable to air

and sinks in water. There is no air in the lung - or in the part so affected in this stage of the inflammation. it is swell=ed just as other parts inflamed are swel=led. by the congestion of its vessels and by the effusion of blood. or of some of the constituent parts of the blood into its hol=ows and interstices. The spongy character of the organ is lost - hence it becomes solid and the cut surface resembles the cut surface of liver - The lung in this condi=tion is more dense and solid than in the stage of engorgement. but it is also more friable. more easily crushed and broken. and this results from the softening of the areola tissue which holds its component par=ts together - and the lung does not collapse upon exposure to the atmosphere. as in a healthy state - In a degree still further the malady is greater - as follows

The third stage Gray Hepatization. The pulmonary tissue is dense. solid and impervious to air as in the second stage - undergoes an alteration of colour - it presents

a reddish. Yellow. Straw. drab. or stone colour
or it is of a grayish hue. Sometimes it is
mottled with a red or black pulmonary ma
=tter. It is full of purulent matter. which
is sometimes so abundant, and A oozes out freely
when incisions are made into the lungs.
Or it may be made to exude by gentle pres
=sure. The gray pus shows itself upon the
cut surface in the form of very small
drops. The more the pulmonary texture is
soaked with the fluid. the softer and more
friable it becomes. When crushed between
the fingers it is reduced to a yellowish gray
pulp like the fluid only more consistent.
And by gently forcing the finger into any
part of the parenchyma, in this state. a small
cavity may be made which soon fills up
with pus. which might be readily taken
for a recently formed abcess. It consists in
diffused suppuration of the pulmonary
texture. The three conditions described are
not always distinct. the lung may partake
of the first second and third. the gray
hepatization in the center. the red around it

and the engorgement around the latter somewhat intermingled=

Pneumonia is more frequent in the right Lung than in the left, as two is to one= the double is rare in adults= the lower lobes is more liable to inflammation than the upper that which lies lowest being more likely to suffer by gravitation = Men are more liable to this disease than women, in about the same proportion as the right lung suffers to the left = Inflammation of the bronchi constantly accompanies inflammation of the parenchyma = The Mucous Membrane presents a red colour both in the large, and small bronchi of the air passages = And when a single lobe is affected, it has been observed that the redness of the Mucous membrane exists in those bronchial tubes alone which is distributed to that lobe = There may be bronchitis without pneumonia. but pneumonia without a corresponding extent of bronchitis is rare = Pneumonia is also very frequently attended with inflammation of the investing membrane of the lung =

Symptoms - The first general symptoms that come on in Pneumonia - or the stage of Engorgement are uneasiness. horipulation. wandering Chills & febrile Movement. When these precursory symptoms do not come on. we have decided Chill. head ache. ~~More or less pain~~. dyspnaea. Cough and peculiar expectoration. we have increased frequency of pulse and more or less pain.

At this period. if the ear is applied to the Chest you will hear a slight degree of minute crepitation. which is not strong enough to displace the vesicular murmur. there is no appreciable difference of sound on percuping the thorax. the fever is considerable. owing somewhat to the extent of the disease. often it is great when the extent is slight. the Chill pases off. but the fever lasts as long as the inflammation continues. the pulse is usually full. strong and only moderately accelerated. it is not so frequent as in epential fever. the skin at times is hot. but more frequently it is moist. the appetite is lost. the tongue is white and frasty. and a good deal of thurst. the blood is rich

in fibrine. and when let stand after being drawn becomes buffy in a high degree. the minute crepitation heard as Doct.r Williams observes. may be compared to the sound produced by rubbing a lock of ones own hair between the thumb and finger close to the ear. or. it may be compared, to the noise produced by the compression and expansion of a piece of sponge cake held near the ear. There is pain below and about an inch out side the mamma. sometimes under the clavicle. the Pain during A the Chill is sometimes lancinating. and continuous. the first twenty four hours. and then becomes more dull. oppressive. and diffused - it is increased during actual respiration and Cough. The sharp pain is owing to pleurisy, and the dull to the Pneumonia. The Cough is a common symptom uniform night and day. It is in some instances violent, and painfull. in others. Moderate, and with little. or no pain. - the respiration is from thirty

to fifty. or more. There is a deep livid blush on the cheek corresponding with the side affected. and at times on both cheeks. These symptoms constitute the first period of the disease. From the second to the third day new symptoms appear. The expectoration hitherto absent or only catarrhal becomes characteristic. It is glutenous and transparent, on the second day it is a tawney rust colour it is tenacious, unites together like gumarabic the vessel in which it is spat may be turned bottom upwards and it adheres closely. the minute crepitation described increases and drowns the natural respiratory murmur the clear sound produced on percussion begins to be deminished on the side which the crackling is heard, and the pain is felt. the pain is less sharp than was in the beginning. the difficulty of breathing is increased. If the pain be acute. he cannot lie on the affected side on that account. neither can he place himself on the sound side, or his respiration will be more laborious. and therefore he remains lying almost constant

on his back. In this Condition the inflammation is yet in the first degree or the stage of Engorgement. It may remain at a stand for a while and then retrace its march and terminate by resolution. In this Case the dyspnoea diminishes. the slight dulness on percussion disappears. the crackling sound is gradually diminished. and the natural respiratory murmur is restored the Sputa becomes again that of simple bronchitis. the fever subsides, and ceases, the pain ceases, and the patient soon enjoys his usual health.

Again instead of retrograding, the Pneumonia gets worse, and passes on into the second stage or that of Hepatization. and we may be satisfied this stage exists, if the following symptoms appear = The breathing becomes more constrained. short. accelerated. his speech ceases to be free. he can only pronounce a few interrupted words in a panting manner. the Sputa acquires such a degree of viscidity that it cannot be detached from the vessel

by turning it upside down and shaking it.
the Sputa. now is Coloured deeper than in the
first Stage. More like the Common horehound
Candy. the Sound on percussion. is decidedly
dull on the side affected. at first we still
hear a little of the minute Crepitation = without
the admixture of the pure vesicular breathing.
then that little Crepitation ceases. and either no
sound at all is heard. or in the part where
the percussion is dull, Bronchial respiration
is heard = And this usually accompanied
with Bronchophony. the bronchial respiration
is more marked and distinct at the expiration
of a slight Cough. the sound is like that
produced by blowing through a quill. this
sound is not heard in the healthy lung.
though doubtless it is common, but is hidden
by the smooth rustle of natural breathing,
which comes from the spongy lung, sur=
=rounding the large divisions of the bronchi;
and intervening between the bronchi and
walls of the Chest = This sound is not per=
=ceptible in the healthy Condition. but as
soon as the lung becomes hepatized. between

between the bronchi and chest. it acts as a good Conductor and the sound is conveyed to the Ear = The lung in this condition admits air to pass through the large bronchi, but none into the small tubes. there is four times the vocal thrill on the effected side, than there is on the sound one. Also we will generally have the sound in A lung. if the whole of the diseased lung be engaged in inflammation. or in those parts that are healthy pueril respiration. And this is sufficient evidence that a part of the breathing apparatus is spoiled. And that the remaining part is endeavouring to compensate for its deficiency. At this period, when no sound but bronchial breathing is heard, during respiration. is precarious. We cannot say whether the inflammation will terminate by resolution, or whether it will in spite of the best directed efforts. progress to the third Stage = Should the most favourable Change take place, what have we then. The Hepatization retrogrades. we have for a time bronchial respiration. a slight

crepitation begins again to be desernable, especially at the end of each inspiration, gradually this sound increases in extent and intensity, the bronchial breathing and bronchial voice becomes proportionably less and less distinct, in consequence of the texture of the lung becoming permeable to air and more healthy, and therefore a worse conductor of sound. The natural vesicular breathing begins again to be mixed with Crepitation and finally supercedes and the lung is again restored to its healthy function. I repeat the same symptoms occur over again but in a <u>reversed order</u> - subject to some variation in the returning crepitation - it being coarser and larger and less regularly defined.

Some of the physical signs have aided us in tracing Pneumonia from its earliest period into that of hepatization - but it is questionable whether they can aid us further, until the structure of the lung breaks down, and a portion of it is expectorated and air finds way into

the vacant spot and give rise to large gurgling crepitation. And now other symptoms generally appear to satisfy us that our patient is in the third stage of the complaint. Such as the expectoration similar to liquorice water and Plum juice, and the countenance strongly indicating approaching death. Delerium is a symptom very frequently occurs in an attack of Pneumonia and a very bad symptom it is. It denotes that the due arterialization of the blood is largely interfered with by the pulmonary affection. It indicates the quantity of mischief which is going on within the thorax and is positive evidence that the pectoral mischief is telling through the circulation of venous blood upon the brain.

Causes. vicissitudes of the weather are the most frequent cause of Pneumonia. Sudden checking of the perspiration by Cold. when the system is relaxed from fatigue & perspiring freely. direct violence. Wounds of the Lungs acrid and poisonous inhalations. loud and long speaking. except in drunkenness. Bronchites

measles hoopingcough - affections of the heart - Scarlet fever will light it up if too early exposed during Convalescence - It is more common between twenty & thirty five years - when in Children it is Lobular Pneumonia - Bakers - Masons - and Trenchers are very liable -

Duration the duration of Pneumonia in Mild Cases may be set down from eight to twenty days - in the more severe and advanced Cases a longer time is required -

Prognosis In Cases of common or lobar Pneumonia where a portion of a single lung is diseased - uncomplicated and in a healthy Constitution - we always anticipate a happy result - under proper treatment - It is less dangerous in the earlier than in the latter stages - There is no doubt that pulmonary inflammation may undergo resolution although the greater part of one lung should be in the state of hepatization - we are not certain that the lung can be restored when it has gone on into the third stage - we do know that

death may occur. at almost any period of the disease. very much will depend upon the extent of the inflammation. Pneumonia in the first degree and of great extent. is generally as serious as pneumonia in the second degree if it be much more circumscribed. the danger is much greater when the whole of one lung is affected. and in double Pneumonia still more dangerous. In debilitated persons and those of advanced age it is much more fatal. Considerable dyspnoea whatever otherwise may be the condition of the lung is always a bad sign. we do not get much information from the pulse. but if a feeble pulse accompanies much difficulty of breathing. and does not rise under the first bleeding we conclude the inflammation is intense and our prognosis will be unfavourable. Delerium as I have before said is a bad symptom. If the Sputa is of the deep rusty colour and viscid. we have intense inflammation as I have before remarked. but a return to the Catarrhal condition assures us

that resolution is going on - When we have the plum juice Sputa we have reason as has been before mentioned to suspect Suppuration of the Lung, and the Case terminates fatal -

Diagnosis - Pneumonia may be sometimes confounded with Pleurisy - but by attending to the physical Signs they may be easily distinguished - In Pleurisy we have the sharp lancinating pain localized - friction sound aegophony - bulging out of the intercostal Spaces - the expectoration is frothy and at times is streaked with blood - Flatness on percussion when effusion has taken place, and changes with the position of the patient - and displacement of the heart liver and stomach - It may also be confounded with Bronchitis. in Bronchitis the sensation is more of soreness than pain and commonly seated in the front upper part of the Chest behind the Sternum the Expectoration is Mucopurulent - In Pneumonia the pain is dull dragging and diffused - which differs from pleurisy and bronchitis - the dullness is not so flat as in pleurisy with effusion

it is more elastic and does not change with the position of the patient. the heart liver and stomach is not displaced as in pleurisy. we have bronchial respiration and vocal thrill which is absent in Pleurisy & bronchitis. to these we have in Pneumonia the small crepitant rattle and the peculiar viscid tenacious rusty sputa

Treatment. were I called to a case of Pneumonia in the stage of engorgement I would first place my patient in a sitting posture open a vein so the blood would flow in a full stream, and continue the bleeding until some sensible effect was produced. until the pulse became soft=ter or if it were contracted until it became fuller, and the sensation of constriction was abated difficulty of breathing relieved or until syncope seems to be at hands I would keep the patient in bed restrain all useless and uncalled for exertion of the lungs. such as speaking &c and use or enforce the antiphlogistic regimen apply cups to the pit of the stomach. and administer one grain of Tarter Emetic in solution

of gumarabic with a few drops of laudanum to prevent vomiting. of this dose I would give two hours apart until the following day. If the disease persisted I would now take about twelve ounces of blood. increase the dose of tartar emetic as it become tolerated, so as to give from eighteen to twenty four grains in the twenty four hours I would watch the respirant rattle and other symptoms and would resort daily to the lancet whenever the symptoms would bear it continue the tartar until the disease gave way. when the symptoms abated I would lessen the dose of tartar as the disease retrogated. but again resort to the same doses if the symptoms of inflammation returned. I would also give an apperient in the onset and endeavour to regulate the bowels so as to have one operation daily. In the second stage or that of Hepatization I would endeavour to put the system under the influence of Mercury, I would give two grains of Calomel every two hours combined with one fourth of a grain of Opium to prevent its purging until the mouth was slightly touched. I would also

take blood. for yet, a part of the lung may be in the first stage, and give tartar emetic in contrastimulent doses, as a sedative to the heart and arteries. and lessen the undue task of the lungs. Should the bowels become irritated by the use of Calomel, I would substitute the blue Pill. If the patient improved under this treatment and the case retrogaded I would lessen or discontinue the remedies as the case would allow. on the otherhand, if the case marched onwards into the third stage. of Gray hepatization. the face become exceedingly pale and corpse like coldness of the surface and extremities. tendency to delerium debleness and irregularity of pulse. I would administer stimulents to strengthen the system carbonate of ammonia in from one to five grain doses in a decoction of Senika. small doses of Calomel may be given. Camphor julep brandy. quinine blisters to the extremeties friction over the chest and also give him barley water and beef Tea. If there is some congorgement left. after sometime. the Iodine ointment may be rubbed on the chest. a bergundy

pitch plaster may be worn - give laxatives
to keep the bowels moderately open - forbid solid
food - wear flannel next the skin - use your
care and avoid all sudden changes of the weather
by using proper clothing - as those who have
had Pneumonia once are very liable to
subsequent attacts - It will be well for
them to use the Cold bath after they are
enjoying usual health - so as to accustom
themselves to the shock - strengthen the system
and [illegible] by these means will not be so
susceptible of the various changes -

Gentlemen, in Conclusion.

Allow me to say. it would be much more agreeable to my inclination to glide through the process of graduation in obscurity. than thus to subject myself to the criticisms of any, but as the law of the University of Maryland require a dissertation from every Candidate for Medical honours, I am compelled to select a subject for your inspection the subject I present to you is one of those inflammatory diseases of the Chest, which is very common, generally curable if early recognized, and properly treated. If suffered to be neglected there is few diseases more fatal, which make it the more necessary, that a Physician should recognize it. being too. That disease, a Knowledge of which is the key to all inflammatory diseases of the Chest. these are the reasons, I have selected it for the subject of My dissertation. not that I have any idea of having done justice to the subject

or have added any thing instructive thereto for I know it would be preposterous to attempt it - I have merely compiled togather the subject as I understand it - believing they are the views generally entertained. I can hope, it will meet your approbation - and will enable me by the will of God. to relieve those, whom it may be their misfortune to need assistance -

If I have succeeded Gentlemen in satisfying you that I have acquired a knowledge of this disease, which will be for the relief of those who may come under my care, it is all that I can expect

An

# Inaugural Dissertation

on the

# Force of Habit

Submitted to the Examination

of the

Provost, Regents and Faculty of Physic.

of the

University of Maryland.

For the

Degree of Doctor of Medicine.

By

Roderick W. Bareckson.

Of

Queen Anns County

Maryland.

— Habit is undoubtedly designed by the Great Author of our being, to facilitate the numerous, and complicated operations of the animal system; without it, man would be limited in all his faculties, whether of body or mind; "indeed, deprived of its agency he could never have passed from the condition of infancy to that of manhood."

The disposition to action that arises in consequence of the influence of Habit, commences, and continues from the first act, to the establishment of the most confirmed Habits.

Such is the mobility of our mental organs that they are much more speedily brought under its controul than the organs of the body, hence, we find that fewer repetitions are requisite to the formation of our intellectual, than corporeal habits. A single impression made upon the mind, especially, if attended with a sensation of pleasure, will leave a stronger tendency to a repetition of the same act, than a multiplicity of impressions made upon less susceptible parts.

The active nature of Habit, is very strongly shown from the fact, that we may habituate ourselves to awaken out of the deepest sleep at any hour in the morning, we may think proper to fix upon, and such is its energy upon these occasions, that though deprived of our rest the preceeding night, we invariably awake at, or near the appointed time.

Nurses, it may be observed from their long attendance in protracted cases of dis=ease, will become so much the creatures of Habit, as regularly to awaken at the time of exhibiting the medicine prescribed to a patient, if that should be every second or third hour through the night, and during the interval, sleep as soundly, as though they had not been disturbed in their rest.

The awkward gestures, and pronunci=ation, into which children fall, from their associating with improper company fur=nish a familiar proof of the same thing, and in order to divest themselves of these clownish manners, it will not be sufficient

That they should, when arrived at years of discretion, merely form a resolution to that purpose, but they must be particularly careful, in resisting the impulse of Habit, until they have finally succeeded in overcoming its tendency by the substitution of a different and more correct train of movements &c.

It is owing to the control of habit over the manners of men, that persons who have been raised up in the lower circles of society, if afterwards raised to affluence and rank, seldom, if ever, acquire the easy and polished mien of genteel life; and that the national habits or characters of individuals, grown to manhood before leaving their native County, are generally retained through life.

I might if necessary say much (morally) upon the difficulty of eradicating evil Habits. The experience of all ages, as well as examples of daily occurrence, convince us, that this is frequently not to be accomplished by men of the most resolute and determined minds; Even after a person has become disgusted with what is evil in consequence of having

undergone That change of heart which it is
The high, The holy, and exclusive prerogative
of The religion of Jesus Christ to impart; he
is frequently carried away against his will
by The force of former habits, to be guilty of
that which he so much abhors and dislikes.

In matters of taste, The influence of habit,
is no less controlling and arbitrary. By an
original power of The mind, we are enabled
to discern and admire Those qualities That
are beautiful, and on The other hand dis=
=approve of such as are ugly and defective
in The various objects which we contemplate,
but even in These respects, how frequently
do we see The decisions of nature overruled
and The faculty of taste dethroned by the
Force of Habit.

In relation to beauty of various forms
either natural or artificial, its influence
over The taste of different nations is abso=
=lute in The extreme. The fair complexion
The form of feature and person which we
so much admire in The human figure
are The reverse of what is esteemed most

beautiful, among some of the tribes of Africa

In China a Lady whose feet are so large as to enable her to walk upon them, is considered an Object of deformity; and others of the asiatic nations, esteem teeth as black as Ebony, no less essential to the beauty and elegance of their appearance.

The active effects of Habit, are no-where more strongly shown or manifested, than in the successive, or simultaneous contractions of many of our voluntary muscles, which have become united in their motions in consequence of having repeatedly acted together. In these muscular associations, if an impulse of the will be imparted, a series of movements are run through without a renewal of that impulse, which previously to the training of the muscles, was necessary to every seperate act through which they passed. Thus, in our first attempts to write words consisting of two or more characters, we seperate them into their component parts of letters, and even portions of letters; but by Habit our

hand becomes so adroit in handling the Pen as to form the words by one continued motion, without the intervention of any deliberation, sensation, or volition, between the several acts of the fingers. In this way many of the seperate motions of our muscles, and, even the individual fibres of each particular muscle, becomes so con=
=nected, as to act, either synchronously or successively, agreeably to the Habits, that have been previously acquired.

But the force of Habit, in some in=
=stances, is so cogent, as to bring into ac=
=tion the voluntary muscles in direct opposition to the will. If for example, we lay the palm of the hand flat on a table, and raise one finger after the other, when it will be found that the ring-fin=
=ger cannot be lifted without disturbing the rest, — evidently from the difficulty of de=
=taching the action of that portion of the Extensor communis digitorum by which the movement is produced, from that of the remainder of the muscle.

Yet to the practised musician, the com=
=mand of the will over all the fingers be=
=comes nearly alike; and it can scarcely
be doubted that some change takes place
in the structure of the musele, which fa=
=vours the isolated operation of its several
divisions.

The muscles which are concerned
in the act of winking when a blow is
aimed at the Eye, will also contract
in opposition to the most determined
resolution, Even though the person who
is the subject of the experiment, is perfect=
=ly satisfied that he will receive no in=
=jury from the hand of his jesting friend,
The cause that excites the contraction
of the Palpebral muscles, in this case, is,
the sensation arising out of that appre=
=hension of danger which accompanies
the impulsion of foreign bodies against
the Eye. This sensation however, unless
it had been previously connected with
the act of winking, would as readily have
produced a closing of the lips, as of the Eyelids.

It perhaps may be said That The con=
=tractions of The Palpebra: under such cir=
=cumstances, are caused by instinct; but
That They are not prompted by This agent,
any-one may satisfy himself by making Ex=
=periments on infants, who will never wink
when a finger is suddenly darted at Their
Eyes, until They have learned That These
Organs may be injured by The impulse of
foreign bodies against Them.

I have frequently made These Experiments
upon young infants, and always with the
same result. We might Therefore as well
say That a child, after having once burnt its
finger, will from instinct, avoid The flame
of a candle; as to suppose That it will con=
=tract its Eyelids from The same blind
impulse.

The influence of Habit over The func=
=tions of The various organs of life, are al=
=so very striking. For instance, That con=
=dition of The Stomach, upon which our
appetite for food depends, returns regular,
and at stated hours, according to The

Established rules of custom. That this is not owing to the presence of any particular irritation, is evident from its wearing off, if it does not receive its accustomed indulgence, and again returning about the period of our next mealtime.

"It is a general rule, with regard to all sensations, that their intensity is much affected by Habit; being greatly diminished by frequent and continual repetition.

This is partly due to the different degree of attention which the sensations excite in the mind; but there are many facts which lead to the conclusion, that it is chiefly to be attributed to a change in the degree in which, after frequent repetition, they impress the consciousness itself. Thus, most persons are readily awoke from a sound sleep by a trifling noise, if the sound be of a kind which they are unaccustomed to hear; but after a few repetitions, the sound loses its effect, unless its intensity be increased. Of this, every one has had experience, who has occasionly made use of an alarum,

to arouse him for a few mornings in succession. It is curious, also, that the feelings of pain or pleasure which unaccustomed sensations excite, are often exchanged for each other, when the system is habituated to them; this is especially the case in regard to impressions communicated through the organs of smell and taste. There are many articles in common use among mankind — such as Tobacco, Fermented liquors &c, — the use of which cannot be said to produce a natural enjoyment, since it is at first unpleasant to most persons; and yet it first becomes tolerable, then agreeable; and at last the want of them is felt as a painful privation, and the stimulus must be applied in an increasing degree, in order to produce the usual effect."

Those who are exposed to very loud noises, become almost unconscious of them, and are even undisturbed by them in illness; *—

*This fact is very well known in the manufacturing districts, where it is not at all uncommon for a family to live in the

immediate vicinity of a forge hammer; and those who are accustomed to the noise, are unable to sleep anywhere else.

And the medical student well knows that even the effluvia of a dissecting room are not perceived when the organ of smell is habituated to them; although an intermission of sufficient length, would in either instance, occasion a renewal of the first unpleasant feelings, when the individual is again subjected to the impression." (Carpenter's Physiology.) ——

Every Physician knows that the habitual use of certain medicinal or poisonous agents, especially narcotics, diminish the influence which they ordinarily possess over the body. Of the truth of this statement we have almost daily proofs in those who are confirmed drunkards, chewers, and smokers of tobacco, and Opium-Eaters.

In Pereira's Mat: Medica, (Vol 1st page 154.) a remarkable instance is found, related by G. V. Tzeviani, of a woman whose name is Galvina, who, during a period of thirty four

years, took more than two cwt. of solid Opium!! When nineteen years old, she fell down stairs, and divided her Urethra by a knife. Although the wound healed, she was unable to pass her urine in the usual way, but vomited it up daily with excruci=ating pain, to relieve which she resorted to the use of Opium, the doses of which were gradually increased to 200 grains daily.

The control of Habit over the Rectum and bladder is no less strongly marked. If we get into the practice of evacuating either of these organs at stated hours, this contractile action will afterwards be ex=cited by Habit, at such particular times, though the quantity of their contents should not be such, as from its bulk to produce the least uneasiness. Its influence over the functions of the bowels in particular, is so well known, that it has been turned to the best practical purposes, in the remo=val of habitual constipation, when other means resorted to with that view had entirely failed.

But if the system in health affords us proof of the energy of habit, its effects in this respect, are also observable in certain morbid conditions of the animal machine.

In some cases of Spasmodic or Convulsive diseases, the irregular action of the system is long continued after the morbid cause which first produced them has ceased to operate. Examples of this we not unfrequently see in Epilepsy, chorea, and other Spasmodic affections, the continuance or periodic occurrence of which is evidently owing to the power of habit, or takes place in consequence of the nerves and muscles having before repeatedly performed the same movements, under the guidance of some irritating cause that has afterwards been withdrawn.

The similated Epilepsy, which has so often attracted the attention of the medical profession, although at first entirely feigned becomes by repetition, involuntary,

and uncontrolable, and as much a real disease, as if it had been brought on by the more ordinary causes of that complaint."

In the deranged condition of the Uterus which is followed by abortion, we are furnished with farther testimony in corroboration of the effects of habit; for among the various causes which bring on miscarriages, it is most assuredly to be enumerated.

"The periodical return of the paroxysms of an Intermittent fever, has been kept up during whole months in succession, by the force of Habit alone; for in these cases we cannot reasonably suppose, that the miasmata, or other agents, which had been concerned in producing them, continue to operate."

The illustrious Dr. Watson relates an Experiment, (in his inestimable work on the Practice of Medicine, page 405.) performed by M. Brachet upon himself which very strikingly and truly shows the influence of acquired habit in continuing

These periodical returns, (viz) Towards the end of the month of October 1822, Brachet took a cold bath, at midnight for seven nights in succession, in the River Saone.

On the first occasion he remained a quarter of an hour in the river; on the second, half an hour; 'till at length he was able to stay in the water a full hour at a time. After each bath he betook himself to a warm bed, and in a short time became affected with considerable heat, followed by a copious perspiration, in the midst of which he fell asleep. At the end of the seven days, M Brachet ceased to repeat this Experiment; but what was his surprise at finding on the following nights, between twelve and One O.clock, that all the phenomena of a true ague fit appeared in due order and succession. As however this artificial paroxysm was not very se-
~~e~~vere, and as he felt well during the day; M. Brachet determined not to interfere with it; but to observe the result.

It occured six times with great regular=
=ity. On the seventh night, after he had
omitted the baths, he was summoned, tow=
=ards midnight, to a woman in labor; the
ride to her house heated him, and on his
arival he kept up the heat by keeping
himself before a large fire, and from that
time, the febrile phenomena ceased to
recur. The above, as also many other
examples, I might quote, (if necessary)
from Dr. Watson, in conoboration of the
fact, that the continuance of the par=
oxysms of intermittent fever, are kept up
solely by habit. In short it is well known
to every Physician, that when a diseased
action **is once produced** from the oper=
=ation of any agent whatever, the impres=
=sion of which has been continued for a
certain length of time, the system acquires
from habit, the power of maintaining that
action, even after the removal of the cause.

The correct and physiological method
of treating all such diseases, consists, in

overcoming the force of morbid habit by substi=
=tuting a different and more powerful im=
=pression. For this purpose, we have re=
=course to both mental and corporeal
Remedies; or to such means as will en=
=tirely change the previous habits of the
patient.

From what has been advanced in the preceeding remarks upon the force of habit, much might be advanced in relation to the extent, and indeed, neces=
=sity of its influence. It has already been stated as a general fact, that all an=
=imal organs, which have been frequently made to act together, either in combined or successive trains, becomes so connected, by its mysterious influence, that when one of the associated tribe is excited into action, that of the rest will instantly suc=
=ceed or accompany it.

It is upon this principle, that the numerous muscles which have been taught to move together in learning the

art of dancing and music; or in acquir=
=ing the different feats of rope dancing, tumb=
=ling, and tricks of legerdemain, become
so linked in their motions, as to act in
some measure as automatons, or without
requiring that continued effort of the will,
and attention which was necessary, pre=
=viously to the establishment of their com=
=bined movements.

Another singular effect of habit
is displayed by the ventriloquist, who ac=
=quires such power in modulating his
voice, and has such power over the
muscles of his throat, that he can imi=
=itate sounds at any distance, or in
any situation, so as to appear natural
and deceive those who hear. He eviden=
=tly does this by acquiring complete con=
=trol over the muscles of his throat, and
any person, (it is said,) may acquire the
power, gradually, by imitating a cow low=
=ing, or a dog barking at a distance. Ven=
=triloquism is one of the most singular

Effects of habit, and goes to show what astonishing power may be acquired over the muscles. This is evinced to, too, (as I before stated,) in the movements of the fingers of the musician. Nothing but habit could give him such control over them, when moving so rapidly and regularly.

Habit is nothing more or less than the accustoming one's self or a part, to a certain routine of action or conduct. In the performers of a circus we see the effect of habit, in giving a control over all the muscles of the body. It seems impossible for a man to stand on the ground and, without touching anything, throw a complete summersett, pitching on the same spot where he stood, but it is performed ap-=parently without any effort. The same habit which enables him to do it, enables a child to walk, by fixing the body over the centre of gravity. The same habit teaches the eye to see objects upright, instead of

in an inverted position, as the image appears on the Retina.

The muscles which are concerned in the articulation of language, are so much under the control of the same principle, that without its active co operation, it would be utterly impossible for children to learn the art of speaking. The difficulty with which they are taught their vernacular tongue is universally acknowledged.

It is not until after repeated attempts, that their muscles are brought to act in that uniform and harmonious manner, which is essential to the formation of speech.

The more these are exercised, with do much the greater facility they are called into operation. Hence, men who from their habits have but little to say express themselves with awkwardness and difficulty.

Hence, too, the greater advantage of the orator in point of fluency, over the man unaccustomed to public speaking.

It was owing to the unwearied assiduity

with which Demosthenes exercised his muscles in overcoming the stammerings of his voice that he was enabled to rise to the first eminence, as a public Speak-=er in the popular assemblies of Greece. —

The influence of habit is not confined to the operations of the body, but it also holds an extensive dominion over the intellectual character of man.

Its agency over the mind is astonish-=ingly displayed in the most simple Expression of our thoughts in common conversation. The connection of those arbitrary sounds which constitute lan-=guage, with our ideas; their relation in point of grammatical construction; and their various combinations in a series of logical propositions, all evince the extent and also necessity of its influence over mental action. Were it not that these acts have grown so familiar to us, they would excite our wonder as much as the feats of Rope-dancing, balancing, &c which

in all ages, have been ascribed by the superstitious, and illiterate, to Super=
=natural agency, and even viewed with amazement by the more intelli=
=gent spectator. The power of habit, is manifested in the association of ideas; in that command which we acquire over the train of our thoughts, including the exercises of judgment, memory, and imagination, is as essen=
=tial to our different intellectual oper=
=ations, as it is to the perfection of our muscular actions. Without it the mind could no more have embraced the dif=
=ferent species of science, than our vol=
=untary organs, destitute of the same energy could have been trained to the Execution of the lowest mechanical arts.

In short, I believe, there is not a quality or function, Either mental or corporeal, which does not yield to this great law of our nature. "There are, not only habits of drinking, swearing, lying & but of every

modification of action, speech and thought.

There are habits of industry, attention and vigilance; of indolence and vanity; of self-conceit, melancholy, partiality fretfulness, and suspicion; "making man truly a Bundle of habits."

A knowledge of these facts, at once unfolds to us, the immense importance of our subject in relation to morals.

They point out the necessity of an education, that will give a prominent establishment to those habits of thought and action, which will be most conducive to the happiness of man, and welfare of society. In youth, both mental and corporeal customs are more easily acquired, than in the middle or advanced stages of life. The flexibility of their bodily organs, the docility of their minds, as well as their greater freedom from vicious habits, is at this period of life, most favorable to the reception of a correct education.

It is therefore a matter of the utmost moment, that the minds of youth should be constantly habituated to such impressions, as are best calculated to excite a religious and moral train of thoughts.

And also that their muscles, (though a matter of minor importance,) should be trained to such movements, as will constitute the most accomplished and refined address.

"It was no doubt an intimate acquaintance with the laws of habit, which first suggested to Solomon, that familiar, but not the less wise admonition; 'Train up a child in the way he should go, and when old, he will not depart from it.'

"Habit has a wonderful influence over human beings, in every respect, and those which are called bad habits, should carefully be avoided, for when once contracted, it is a difficult matter to shake them off, for as before observed, habit is so like nature, that in many res-

=pects, it is difficult to distinguish the one from the other. Men of the greatest minds that ever illuminated the benighted nations around them, have been overwhelmed by habit.

Hence the celebrated Dr. Johnson, the great leviathan of English literature, has said, that he who overcomes one powerful habit, deserves more credit than the General, who achieves the greatest victory, in the field, in as much as it is easier to overcome others, than to govern ourselves.

The above observation was illustrated in the character of Alexander the Great, who has been aptly styled the mad Macedonian. —He who carried Kings captive, and saw nations kneeling before him — he, in whose grasp crowns crumbled, and at whose ap=proach Thrones tottered, — he, who made himself master of the world, and arroga=ted to himself, the title of the son of Jupiter Ammon — could not govern himself, but died in a fit of debauch, at the early age of thirty-two, after having slain in his drunken=ness one of his bravest generals.

That wonderful Being, who guides and governs the universe, foresaw that it would be necessary that man should be governed by habit, and accordingly placed those bars around him, which he, alas! too frequently turns to his own destruction.

But thus it is with the greatest blessing in life, which when improperly used, becomes the greatest curse. The very habit of eating which is intended to sustain life, is often made to destroy it, by that desire of excess which is inherent in man. If he had cultivated those habits alone, which tend to his good, he would have lived in health, and died in old age, but, on the contrary he has truly sought out many inventions for his own destruction.

An

Inaugural Dissertation

on

Fractures of the Cervix Femoris,

Respectfully submitted

to the

Provost, Regents, and Faculty of Physic

of the

University of Maryland,

For the degree of Doctor of Medicine,

by

John. Henry. Prentiss.

of

Baltimore County

Maryland.

Will Dr. N. R. Smith add to many and great obligations already conferred, by granting the privilege to the undersigned of dedicating to him the following pages, as a slight but sincere token of the high respect and heartfelt gratitude of his

very obt and humble servt.

John H. Prentiss.

The Os Femoris is the strongest most dense and most completely defended by muscular substance of all the long bones: it is, from its length, its position, and, especially, from its curvature and peculiarity of form, the most frequently broken. Fractures of this bone may occur at any part, from the epiphysis of the head to to the extremity of the inner condyle. Our attention will, however, be confined in this essay to the fractures of that part of the bone, which, from its peculiar anatomical construction, has received the appellation of neck. In order to avoid confusion hereafter, I will state those general causes which predispose to fracture the cervix femoris, prior to entering into a detailed account of the symptoms, remote causes and treatment.

Predisposing causes of fractures of the cervix femoris

The age exercises a very powerful influence in causing fractures of the cervix femoris. Bone is made up of animal and earthly matter.

In childhood the animal constituent is is most abundant. hence wee see bones at this time of life yield and bend before violence, which on account of their small size nothing but their peculiarity of structure could enable them to resist. Between the ages of twenty and fifty years these two constituents nearly equal each other. Hence at this period the cervix femoris is found stronger and firmer than at any other. After the age of fifty the earthly constituent predominates and great brittleness is the characteristic mark of bones at this age. Old age exercises a more powerful influence, as a predisposing cause of fracture of the cervix femoris, than of any other bone. For this reason. In youth the vital energies are strong. the process of nutrition is much more active, than that of resorpation; parts increase in size and strength; but in more advanced years resorpation is most rapid. parts decrease in size and strength. Such is the case with the neck of the thigh bone. and for this reason, it is no longer able

to support the weight of the superincumbant body. The head of the bone gradually sinks beneath the burden, which it has unflinchingly borne for so many years. This change in the relative position of the head to the shaft renders the cervix femoris, particularly with in the capsule, much more liable to fracture than at any other time of life. Certain diseases predispose to the fracture of this as of other bones; as carcinoma scorbutus, syphilis. scrofula. Affected by these diseases the cervix femoris frequently gives way under the ordinary action of the muscles, or yet more trifling violence; such as slight falls, or even turning in bed. Another predisposing cause, which I have not seen mentioned by any author, is arthrocasy of the knee joint. This disease, destroying those elastic pads, the semilunar cartilages, which are placed between the condyles of the femur and the head of the tibia, the whole force of any violence received at the lower extremity of the tibia, if this bone escapes fracture, is transmitted to the femur,

the greater part of which would have been absorbed by cartilages, when in a healthy state and performing their normal function So much for the predisposing causes of fracture of the cervix femoris. I shall endeavor to give the remote causes, when speaking of each particular fracture

Fracture of the neck of the thigh bone. Fractures of the cervix femoris have been divided by Sir Ashley Cooper into those within and those external to the capsule of the joint. Amesbury subdivides them into those in which the close coverings of the bone are not lacerated, and those in which they have been torn to a greater, or less extent. This subdivision I consider of little or no importance, since it is impossible to diagnose between fracture without rupture of the close coverings of the bone and mere contusion of the hip joint. In this fracture there can be no shortening of the extremity, no eversion of the foot. no crepatus can be developed. The great trochanter continues to describe the arc of a circle with the neck of the bone as radius,

In fact there is no symptom indicative of the solution of continuity of the bone. There exists much doubt in my mind, as to whether complete fracture of the bone ever takes place without rupture of the close coverings, from the extreme tenuity of those membranes, It requires much less stress of the imagination to suppose the occurrence of incomplete fracture, but this is not a matter of much consequence, one way or the other. It is only important to know, in order to guard against false diagnosis, that injuries not unfrequently are inflicted in this region without the occurrence of any of the evidences of fracture, till after the lapse of many hours, or even days, when the completion of the fracture may be accomplished, either by some unavoidable motion of the limb, or by the rough manipulation of the surgeon to develope crepatus. For the reason above stated, I shall here adopt the classification of Sir Ashley Cooper in regard to fractures internal and external to the synovial capsule.

Fractures within the capsule.

These may be transverse or oblique. If the fracture be transverse, it is generally situated close to the head of the femur; if oblique, the fracture generally runs from the head above, downwards and outwards. The most frequent causes of these fractures are falls on the knee, or on the outstretched foot. It very seldom occurs except in advanced age, when, from the changes above mentioned as having taken place in the cervix femoris, the fracture may be caused by very slight violence

Diagnosis of fractures within the capsule. When a person of fifty years, or more, has fallen upon the hip, or received a shock from stepping down suddenly from a high step, and complains of having felt at the moment a sharp pain in the hip joint, accompanied with an audible snap, and is unable to raise the limb without great pain, there is reason to look for fracture of the cervix femoris within the capsule. If there is fracture there will be found either immediately or soon after the infliction of the injury a shortening of the limb to the extent of from an inch to an inch and a half, the trochanter major is dragged upward

by the contraction of the powerful muscles, attached along the shaft of the femur, and the prominence of the trochanter is much lessoned, as it sinks into the depression on the dorsum of the illium; the toe will be turned out and, sometimes though rarely, turned in. Cloquet and Boyer never met with an instance in which this fracture was attended with the turning in of the toe. D. M. Chelius speaks of the turning in of the toe as exceedingly rare. If the patient stands the toes rest on the ground, the heel is drawn up and rests between the astragalus and the tendo Achillis. On rotating the limb, the trochanter is found to revolve on the axis of the shaft of the femur and not on the cervix femoris as a radius. In the fracture of this part of the neck, crepatus is a much less certain sign than in fracture external to the capsule. For this reason; the fragment in the acetabulum is so small that its movements can not be controlled, and the two surfaces cannot be opposed with sufficient force to produce crepatus. If, however, the limb be drawn down to an equality in length to the uninjured one and gently rotated with the right hand, while, at the same time,

pressure be made on the great trochanter with the left hand, in such a direction as to bring the fractured surfaces together, every thing within the bounds of safety and propriety will have been done to develope crepatus, and further attempts to produce this sensation should be desisted. from. The above manipulation is applicable to the right leg; if the left leg is the one concerned reverse the hands. One symptom which is pathognomonic of the existence of fracture, is the ease with which the limb is brought to its normal length by traction, and the shortening which immediately takes place when the traction ceases. Fracture of the cervix femoris is distinguished from dislocation of the head of the femur outwards and upwards and outwards and downwards, by the turning in of the toe, which always accompanies these dislocations, and in the rare instances, in which it occurs in this fracture it is in a much slighter degree than in dislocation; besides dislocations require the application of considerable force for their reduction. Fractures

on the contrary are easily reduced, except where they may have been of long standing, and in case the retracted fragment has formed adhesions with the surrounding parts.

Fracture of the cervix femoris is to be distinguished from dislocations upwards and inwards, in which the foot turns outward, by the fact that the limb becomes exceedingly immovable, in the latter case, and it is impossible without great violence to restore it to its natural posture. The dislocated head can also be felt with perfect distinctness resting upon the os pubis.

To prevent repetition, which from my narrow limits I can but ill afford, I will here say something of the cause and symptoms of the fracture of the cervix femoris external to the capsule, for they so much assimilate inter-capsular fracture, that it will only be necessary to state a few points, in which they may differ; for in many cases all external marks of difference are entirely wanting, and the symptoms already given for intercapsular fracture, will apply with equal propriety to either

If to the symptoms already enumerated for intercapsular fracture, we find added swelling and ecchymosis, the shortening of the limb not quite so manifest, never more than an inch, scarce ever more than half an inch, crepatus quite distinct and readily developed, I think we would be pretty safe in diagnosing fracture external to the capsule. This fracture most commonly occurs to persons under the age of fifty years, and is caused by great violence, falls upon the trochanter, or the passage of a laden carriage over the pelvis, Sometimes the neck is driven into the shaft of the femur and wedged there in such a manner, that crepatus ~~crepatus~~ cannot be developed, and shortening does not take place, till after the lapse of a considerable length of time —

Prognosis = It was a question which for a long time agitated the minds of the most eminent and scientific observers, whether it were possible for bony union to take place after fracture within the capsule of the hip joint. Cruveilhier, Sir Ashley Cooper, the former even more strenuously than the latter, and numerous others endeavored

to prove, by analogy and the most scientific deductions of logic, the impossibility of bony union. It all went to prove that logic was no surgeon, and stubborn and incontrovertable facts have shown that, in spite of their syllogisms, intercapsular fracture will unite by bone. Messrs Mussey. Boyer. Earle have exhibited quite a number of cases, in which bony union did take place; and Amesbury is of opinion, that the rarity of the occurrence of bony union was to be attributed to the want of proper treatment alone. Sir Ashley Cooper so widely disseminated the precept that bony union could not be effected in these cases and, consequently, that it was useless to subject the patient to any treatment whatever; that with all due respect to his memory, as a great man, I think he ought to be scourged through Pluto's realms by lame shades. The weighty opinion of so learned a man as Sir Ashley, much protracted the discovery of the means best adapted to the treatment of fracture of the cervix femoris; but this discovery has at last been made; and, by the application of the admirable apparatus of our learned and much respected professor of surgery,

much more can be effected towards the restoration of the continuity of the bone, than by any of the numerous and elaborate contrivances heretofore in use. The physiological condition of the head or neck of the thigh bone, plays but an insignificant part in preventing bony union. The difficulty of keeping the fractured ends, for a sufficient time, in proper contact, is the chief preventive of this union. The most serious difficulties to be met with, frequently are the bad constitution and the old age of the patient. Dr. N. R. Smith is of the opinion that bony union with some shortening, not unfrequently, takes place within the capsule, but that, if under favorable circumstances this is not accomplished, ligamentous union will be effected between the fractured extremities, by means of which the individual will be enabled to use the limb with greater, or less, facility, in exact accordance with the degree of closeness or looseness of the union. The prognosis of fractures external to the capsule, is of a much more favorable character, than of those within the capsule. If the treatment be such, as I shall hereafter speak of, as proper. Fractures external to the capsule unite readily

by bone, and might be made to do so without shortening, or any deformity whatever, except where the bone has been much shattered.

Treatment of fractures of the cervix femoris.

There is nothing more fully deserving attention of the practical surgeon, than the treatment of fractures of the cervix femoris, For this reason. A surgeon may spoil a hat full of eyes, by unsuccessful operations for cataract. he may lose his patients arms, perhaps their lives, by allowing extensive suppuration and percolation of pus to extend from beneath the palma fascia, up along the tendons of the forearm, as I have myself seen; he might even perform the operation of paracentesis abdominis upon a woman in eighth or ninth month of pregnancy. Thus far and still farther, the practice of surgery is a mystic art impenetrable to the unmitiated. But this immunity from the prying of the inquisitive vulgus does not extend itself to the treatment of fractures of the cervix femoris, It is a prevalent idea among all classes of society, except those who are most concerned, that is the surgeon and patient, that it is an easy matter to

set a thigh bone; so that though there is not much reputation to be gained by putting a man upon his legs again, crutches bear a load of opprobrium. The treatment of fractures of the cervix femoris within and without the capsule, is precisely similar except that, by reason of the greater length of time required for the union to take place within, it is in the highest degree important that in these cases the mechanical appliances should not be removed, at the expiration ordinarily required for effecting the union of fracture external to the capsule. The synopsis of treatment given in the following pages may therefore be considered as applicable to both of these fractures. In effecting the reunion of these, as of other fractures, the requisite treatment is purely of an expectant character. All, or almost all, that is in the power of the surgeon to do, is to second nature's efforts by removing, as much as possible, all those circumstances which tend to retard her operations.

The indications for treatment are threefold.

First - In the proper disposition of the fracture if

the broken ends have been displaced
Second - In retaining the ends of the fractured bone in their proper relative position when reduced.
Third - In preventing, or palliating, consecutive symptoms
When and how is the first indication to be fulfilled?
Naturally the first doubt, that arests the Surgeons attention, is whether he shall proceed immediately to reduce the fracture, or whether it were better to suffer the limb to lie on a pillow for many days, allowing the broken ends to pass each other, without making any attempts to prevent it. This latter mode of procedure has been recommended and practised by some, under the idea that any opposition made to the contraction of the muscles, only acts as a stimulus to more powerful contractions. It is the opinion of many surgeons, however, that fractured surfaces should be brought and kept in apposition with each other immediately, or as soon after the injury as possible. It is evident that the longer the rough serrated edges of the fractured extremities of the bone are allowed to irritate the soft parts around by their uncontrolled motions, the longer will the active inflammation last, and the greater will be effusion and

consequent swelling; besides, if the muscles are allowed to remain in a state of contraction, they will become fixed and rigid, rendering it a matter of no small difficulty to bring the lower fragment into its proper relative position with the upper Again, in fractures external to the capsule, immediately upon the reception of the injury, efforts are made by nature to commence the work of reparation. There takes place an effusion of coagulable lymph, all the constituents of the blood effused are resorbed, except the fibrin. These soon render the soft parts around the seat of the fracture stiff and rigid, and thus is commenced the formation of the provisional tumor. By protracting the application of our remedial measures, we must break through these outer embrasures, and thus are lost the first efforts of nature, which are always the most powerful and effectual, and in breaking the adhesions, which have by this time formed between the fragments in their mal-position we necessarily inflict much pain upon the patient. Hence I infer that it is always proper to apply our apparatus as soon as possible. always bearing in mind that

allowance should be made for subsequent swelling, and that, if the allowance should prove sufficient, the bandages must be removed and applied more loosely. Let it not be supposed, however, that I would recommend this summary mode of procedure under all circumstances indiscriminately; it may be carried out however in all cases of recent occurrence. If much time has elapsed before we see the patient, and if there already exists a high degree of inflammation and considerable tumefaction, these conditions must be in a degree reduced by local and general depletion, before the reduction of the facture is attempted; which is then to be accomplished very gradually. The first indication is fulfilled, by making extention and counter extention, by flexing the thigh upon the pelvis, and by rotating the limb inward till the great toe is in a right line with the body. This part of the treatment is easily accomplished. It is in the fulfilment of the second indication, that is, in maintaining the fractured ends in undisturbed apposition, during the time necessary to effect union, that the greatest

difficulty has been encountered. This is accomplished by a mechanical apparatus so applied, as permanently to maintain just such force, as is exerted by the hands in effecting the reduction. And there could be no stronger evidence of the almost insurmountable difficulty, which is attendant upon the accomplishment of this object, than the fact that the contrivances to this end, are almost innumerable, and each and all of them, until the invention of the admirable apparatus of Dr. N.W. Smith, from some misapplicability have fallen into merited disuse. I shall not mention except casually any apparatus except that of Dr. Smith, which every practitioner should have in his possession; as it is perfectly adapted to the treatment of the fractures of the leg and thigh. This apparatus consists of a graduable inclined plane, one for the foot, one for the leg, one for the thigh, and a fourth to pass up the side of the trunk, as far as the umbilicus. The skeleton if it is made of strong wood and iron forming a light frame. The thigh and leg part may both be

lengthened or shortened, so as to be accurately adapted to the length of the limb. Extension is effected by means of a cord passing from the cornice, at the foot of the bed, or from a hook in the ceiling, in a more or less slanting direction, which should be regulated by the degree of extension desirable, to be attached to a point on the leg part of the apparatus, at which the weight of the parts of the limb above & below the attachment, shall about balance each other. Counter extension is effected by raising the foot of the bed higher than the head by means of blocks of wood placed beneath the bedposts. It is by the cord above spoken of that the most important indication is fulfilled, namely that of identifying the motions of the trunk and extremity. In the apparatus commonly used in the treatment of fractures of the thigh, the leg is so fixed to the bed, as to make it impossible for any motion to take place. And it was the opinion of all surgeons, and seems still to be that of many, from the reluctance they evince to giving up the old usages) that the more steadily and firmly the extremity is fixed, even as in a vice, the quicker and stronger would be the union

Dr Smith seing the absurdity of fixing the extremity to the bed when at the same time it was impossible to control the motions of the trunk made this contrivance by which it has become just as impossible for the trunk to move without a corresponding motion of the limb as it was formerly and still is under the use of any other apparatus for the limb to follow any motions of the trunk.

Before the application of this apparatus extension is to be made by the hands of an assistant. The limb is placed in the apparatus which must be lengthened or shortened to suit the length of the limb. The sides of the apparatus must be well padded with some soft material and the slings which pass behind the leg part from one side to the other must be accurately adjusted so as to give adequate support without infringing too closely upon the calf of the leg and the tendo Achillis. The shoe must also be padded and the toe allowed to tilt forward. It is a matter of great importance also that pressure should not be allowed to infringe on the heel. let the weight of the limb be rather supported by the bandage and slings above this point if the patient complains of pressure on the heel,

slip the shoe farther back so as to bring the foot forward in the shoe. After the apparatus has been thus adjusted, a roller is to be applied, from the toe up each turn around the leg, serving as an additional sling to support the calf - having applied the roller up the thigh several turns should be made around the body, to aid the strap and buckle, which is there, for the purpose of confining the apparatus to the body. Thus encased, the limb is to be suspended by the cord above spoken of, within an inch or two of the bed. The foot of the bed must be raised just sufficiently to prevent the body from slipping, or being dragged in that direction by the cord. Thus is fulfilled the second indication; and thus are my remarks upon the fracture of the cervix femoris, nearly brought to a close. The third indication, viz; preventing consecutive symptoms, diet should be low yet not strictly antephlogestic unless suspicious symptoms arise. The bowels should be regulated and there is not the same objection to purgatives in the use of Dr. Smith's apparatus, as obtains in the use of most other apparatus,

that is the danger of motion in disturbing the fragments, as the body can be moved in any direction without disturbing its proper relation to the extremity. If there occur heat, pain and throbbing in the part, with restlessness, flushing of the face and acceleration of the pulse; blood may be taken from the arm, in quantity to be regulated by the strength of the patient. Antimony should be administered and the diet brought down to the strictly antiphlogistic scale. If there be much involuntary spasm of the implicated muscles, opiates are useful. If the signs of local inflammatory action are distinct and advancing, notwithstanding the precautions above mentioned, the roller should be undone, and application should be made of leeches and fomentations. And this is another advantage permanently possessed by Dr. Smiths apparatus, that the seat of fracture can be so easily exposed with so little disturbance of the apparatus or extremity. After the first eight or ten days, the danger of excessive inflammation will, under ordinary circumstances, have passed by. The diet accordingly should be gradually improved

And as the fracture of the cervix femoris most frequently occurs to persons of advanced age and debilitated constitutions, and the restoration of the continuity is a long and tedious process, it often becomes necessary to exhibit tonics and, even stimulants. Eight, or ten, weeks should be allowed to elapse before the removal of the apparatus; at the expiration of which time, most frequently, union will have been effected. If on the removal of the apparatus oedema is found to exist in the lower portion of the limb, which will sometimes occur in spite of the uniformity of the pressure of the bandage, employ friction, with some slightly stimulating embrocation, and continue the roller without the apparatus. As soon as the oedema disappears take the bandage off, otherwise atrophy and permanent debility of the limb is liable to ensue. The use of the limb must be resumed very gradually. Many a fracture of the cervix femoris has been set free in the ordinarily prescribed time, with the limb of the proper length and void of all deformity, which, nevertheless, soon becomes shortened to an extent which impairs both its symmetry and function. The motto of the convalescent should be, "Festina lente".

An

Inaugural Dissertation

on

An epidemic, which prevailed

in Virginia in 1806-7, of

# Typhoid Fever,

Submitted to the examination

of the

Provost, Regents, and Faculty

of Physic,

of the

University of Maryland,

for the

Degree of Doctor of Medicine,

by

Abner Osborn

of Virginia.

The proper subject for an inaugural dissertation is a source of no little perplexity and embarrassment, to the student of Medicine. The voluminous matter before him upon almost every subject relating to medicine, leaves little he imagines for the tyro to offer that is in any respect novel or interesting; the varying influences of climate, education &c., however, operate so essentially in modifying certain diseases, that he hopes the imputation of a "thrice told story" will not apply literally to this treatise. In fulfilling, then, this high prerequisite to the doctorate, the author will endeavour to present nothing but the result of his own observations — he will not presume to the discovery of any new pathological facts, nor pretend to criticise established doctrines, if he shall be able to render

a faithful delineation of his sub-
-ject, and to satisfy the learned
Faculty that he has not been alto-
-gether an inattentive observer of
disease he will rest content: with
this view he has selected for the
occasion the subject of Typhoid
Fever as it has been presented
to his notice. It may be well
enough to premise that the neigh-
-bourhood which has been so re-
-cently and so severely visited
by this disease is ordinarily heal-
-thy and subject to little sickness.
Twenty years ago epidemic vis-
-itations of Bilious remittent fe-
-ver were common, since when
however the country around has
been remarkably exempt from that
disease, or its kindred affections.
The autumn of 1846 was characterized
by an unusually large share of
Intermittent and Remittent fevers,
which in a large majority of cases

were obstinate and hard to manage, the latter approaching nearer to a conjestive form, than to the old fashioned Remittant of high reaction— these all gave way to cold weather and frosts however, and the physician had little to do but treat the relics of the "things that were", and prepare himself for the ordinary inflamitary diseases of the winter, but he was doomed to disapaintment, for it had little more than set in before a new type of fever made its appearance.

This disease which the author will endeavor to describe, made its appearance in a previously healthy location, in the latter part of December, where it was confined for some time, it then began to make its appearance in other families, but not confining itself to the immediate neighborhood

where it first made its appearance.
By the end of January it had assumed the characters of an epidemic
- its type of fever accompanying most of our pyrexial diseases.
It was not confined to any particular localities miasmatic districts and places most exposed to our autumnal fevers, as well as those exempt were alike visited by it - the like impartiality governed its attacks - the most robust and vigorous, as well as the most delicate, being alike victims to its influence - imparting feebleness claiming however, comparative exemption. In the belief that warm weather and the disease were antipodes, we looked forward to spring time and warm weather to relieve us of it, and its influences, but we looked in vain, for the anticipated season of relief passed by and left it

still among us, though, in not such a malignant form. It has not been attended with much mortality considering its prevalence and extent. It has a tedious and protracted course, usually of from three to six weeks, and a tedious convalescence, it is depricated more from this cause than its fatality.

Symptoms Course &c. This disease makes its approach very insidiously, and very variously. Some invasions of any thing more than general lebetude, which they are ready to attribute to a severe cold, or some slight indisposition, pursue their wonted avocations for a week or more, and are then brought to their beds from debility, usually accompanied by headach and some irregularity of the bowels. Others are conscious of feeling weak, accompanied by palpitations for

several days, or are seized with a chill without any premonitory symptoms. Pain in the occipital and lumber regions, characterized the onset of the disease in a large number of cases. There is usually loss of appetite – pain in the stomach and bowels, or sometimes only tenderness on presure over the stomach, or in the right illiac fossa, – the tongue is sometimes pale with the papillae enlarged, in others red and glazed, but more frequently it is covered with a white fur, except the edges, & tip, and a narrow line along the middle, which are red, with enlarged papillae, and a tendency to dryness, and usually tremulous when protruded – the pulse is generally frequent and moderately strong, the skin is usually dry, but sometimes moist – the eyes look dull, the countenance oppressed

the bowels are always more or less deranged, the dejections are usually yellow watery and grumy, with flocculi of lymph and mucus — the urine is generally scanty and high coloured. The above symptoms are most frequently met with at the commencement, and during the first week of its course. Loss of appetite is not always present, when the bowels are little affected the appetite frequently remains good throughout the disease. The above symptoms, or such of them as present themselves at the commencement of the disease generally continue without much change for about a week, except the local pains, which in favourable cases generally begin to give way after the application of appropriate remedies.

During the second week in cases disposed to terminate favourably, the symptoms gradually

begin to give way, or the depression increases, the pulse becomes more frequent and feble, the tongue becomes dry, if it were not so at the commencement, and sordes form about the teeth and lips. The patient lies upon his back and seems stupid, noticing little that is passing around him, and complains of nothing except weakness. He may remain in this condition for some time, and then gradually go on to convalescence, or stupor, or delirium comes on, and carries him off - or rather, this is the most common mode of death. The delirium is somewhat peculiar, it is first present only at night, afterwards through the day when the patient rouses from a nap, or is present more or less all the time - it is of a low muttering nature, or rather the patient seems to be wandering - his answers are generally correct when spoken

to in a decided manner, but he immediately returns to his previous state of wandering. This state is seldom recovered from.

The exanthem usually noticed by authors as common in Typhoid fever was not observed in a single instance, owing most probably to the enteric symptoms which prevailed — Sudamina attended allmost every case, particularly those in which much diaphoresis existed. Symptoms indicating congestion, or inflamation of the air tubes or parenchyma of the lungs were seldom present, but when they were, they added very much to its malignancy, from the improperly decarbonized blood circulated to the brain.

Pathology: There is little known of the pathology of this disease, except inferentially, for there ~~has not been any~~ was no post-mortem

examinations. From its mode of invasion, course and symptoms, the nervous, and sanguiferous systems seem to be early and deeply implicated, but what is the true pathological condition of either, is not known. That the nervous system is depressed, is evident from the dullness, and weakness which are always more or less marked, and from the dark colour of the blood at the commencement of the disease, it is evident that it has undergone some change — as these changes, which the two great systems have undergone, and the essential lesions of idiopathic fever have not been settled by pathologists, who have the most ample opportunities for research, it is not necessary to dwell upon them. From the general and local symptoms it is inferred that the local lesions are similar to

those described by authors in Typhoid fever.

Causes. The causes of this disease like a great many others are not very well understood, or at least the same causes are not acknowledged by all — some attributing its origin and extension to atmospheric influences, while others attribute its origin to some peculiar miasmata, and its extension to infection. It originated in the first instance from some peculiar miasmatic or atmospheric cause — or some other which could not be traced to infection, but as there are different opinions on the cause of its extension, the author will merely give the grounds on which these opinions are founded.

The grounds on which its infectious nature is founded, are the following. It did not show

itself in the neighbourhood like diseases generally do which are excited by atmospheric causes— attacking various families almost simultaneously, but it confined its attack to a single individual for more than a week, then extending itself slowly to the other members of the family, and to most of the friends of the family who had been engaged in nursing— afterwards to the families in which these nurses were confined. Its infectious poison was not regarded as virulent, for when proper care was taken to keep the room well ventilated and other precautions observed, such as not sitting in the room with the patient, the attendants seldom took it.

The opinion of its extension from epidemic causes, is founded on its origin, the circumstances of which have been given— the circumstance of its type of fever

accompanying most of our pyrexial diseases, showing that there was some general influence affecting the community at large, and from the fact of various persons taking it which could not be traced to infection, since the disease has been common throughout the country. The fact of nurses taking the disease more frequently, than others, is accounted for (by persons holding this opinion) by their being more under the influence of the predisposing causes of disease — anxiety, loss of rest &c.

Prognosis. The prognosis was generally favourable where the patients circumstances were such that he could be well taken care of, and the symptoms indicated but little depression of the system, and the enteric affection slight. When it had been some time developing itself, or did not

came under treatment early- the system depressed, accompanied with pain in the head and bowels, and red or dry tongue, the prognosis was unfavourable, or at least, it was guarded until sufficient time had elapsed to see the effect of remedies. The prognosis was generally guarded during the first week, for it was difficult to tell with much certainty what would be the course of it under that time. When symptoms manifested themselves during the first week indicating great prostration of the system - such as feble pulse, the patient lying on his back, oppressed countenance &c, the prognosis was unfavourable. During the second week the prognosis was favourably, or unfavourable, according as the disease was simple, or complicated. Stupor with dilated

pupils, or delirium, which usu-
-ally come on during this period
if atall, always rendered the prog-
-nosis more grave — delirium when
constant, was a very unfavourable
symptom, not a solitary case
recovered who had it. The pulse
becoming slower and more open,
the tongue assuming a moist aspect,
the skin soft, or general diapho-
-resis breaking out, or the appetite
returning, were favourable sym-
-ptoms at any stage of the disease

Diagnosis. The diagnosis
was generally difficult for several
days — it was then made only
by taking into consideration its
course, its general appearance &c.
There was no pathognomonic sym-
-ptom, unless the entire affection
were such. In a few days after
the fever had developed itself,
the diagnosis was generally easy
— from its continued nature, the

great prostration, dull countenance, dullness of the mental faculties, feble pulse, and the condition of the bowels which were always more or less affected, it could not be confounded with any other disease of our climates, except Enteritis, from this it was distinguishable by the appearance of the blood, and the effect of bloodletting upon the two diseases, if by no other symptoms — the blood was always very dark, and without the buffed coat, and the pulse gave way much sooner from venesection in this disease, than in enteritis

Treatment. The indications for treatment were, first to moderate the diseased actions going on in the system — secondly to prevent and relieve the complications which it was subject to — and thirdly to support the system when it was

disposed to give way.

With the view of fulfilling the first indication, bloodletting was usually resorted to so long as the system would bear it, followed by an ipecacuanha emetic and purgatives if the condition of the bowels required them, but they seldom did require the purgatives, nor bear them, for they generally increased the prostration and enteric affection. After the emetic, or before, if there were much pain or tenderness in the epigastrium, mercury in divided doses in combination with opium, or some of its preparations was administered at long intervals, so as to affect the system very gradually, it was not pushed further than merely to touch the gums, or until it affected some change in the secretions - it was then so as merely to keep up this

inspection, or discontinued according to circumstances. The opium seemed to be required in almost every case to allay the morbid sensibility of the alimentary canal, as well as, that of the general system. Refrigerants or febrifuge remedies were used in some cases where the fever was high, but generally to no advantage, except ice, for they increased the internal affection to such an extent, that it counteracted their effect upon the constitution. Ice eaten so as not to oppress the stomach, relieved to some extent the thirst and general heat, which was sometimes complained of. Cold sponging answered a good purpose also where the skin was hot and dry.

With regard to the second indication, that is the prevention and relief of secondary diseases - the remedies which have resorted

to, to moderate the primary disease, assumed the purpose also of preventing, or relieving inordinate congestion and inflimation, the most common complications. When the pain in the head and bowels was severe, resort was had to cups to the back of the neck, and over the abdamen, with ice to the head, and blisters to these parts if the above affections did not give way to the remedies before specified. Any other complications assumed their ordinary treatment due regard being paid to the original disease, and the state of the system.

When the system was disposed to sag or give way - as indicated by the pulse becoming more feble and tendency to coldness of the extremities, ammonia, wine, or blisters, were resorted to, and continued according to circumstances.

The diet was of the least irritating, and most digestable kind that could be obtained, so long as the fever continued, or the morbid sensibility of the alimentary canal remained. After these gave way a more nutricious diet was allowed. Convolescence was slow, and the strictest regard was necessary to be paid to diet, for some time after the patient was able to walk about.

In conclusion the author will briefly remark, that this is a disease which will have its way in spite of the best directed efforts of the physician, and he who may be over officious in attempting to assist it will sink his patient beyond recovery - all that can be done, is, as before said, to guard vigilantly the brain and bowels, to ward off congestion in the former, and moderate inflammation of the latter - these

important considerations are best fulfilled by the judicious and properly regulated use of calomel, opium, and blisters - indeed these are the tripod on which the cure of this disease rests. Certainly, there are many cases which would do well without the interposition of art at all, some such have come within the sphere of the authors observations, but they were mild cases involving to a very limited extent the system, and not requiring the conservative influence of any thing more than good nursing and care - such cases are to be met with in all epidemics, and are not tests of the inutility of medicine in the disease - candor compels the author to say however, that many are victimised by its too liberal use.

An

Inaugural Dissertation

on

Dysentery

Submitted to the Examination

of the

Provost, Regents & Faculty of Physic,

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

19 February 1848,

Samuel S. Richardson

3

Perhaps no disease has received more attention, or Excited more interest, than dysentery. Known from the Earliest days of science as an Epidemic and sporadic disease, few authors who "penned to teach" have failed to mention it. The Physicians and Surgeons of Europe in the 17 & 18 Centuries were aroused

importance of a Knowledge of this disease, whose malignancy had swept in its violent rage thousands, annually, from her large cities. The Epidemic form, which it not unfrequently assumed called forth the pens of Sydenham, Willis, and Morton, and at a later date those of a Huxham & Zimmerman, Durandeau and Degner, All of the old writers of Authority, had something to say Concerning this disease; the writings of Pringle, Morgaine, Hunter, Celsus, Tulpius, Lannertus, Brunnerus, Valsalva, Platerus, Bossius, Fantonus, Roedere Etc Etc, all Evincing a desire to throw some light upon it but few acquainted in any degree with its Causes or pathology. But it is chiefly to the observations of a Parkes a Cruveilhier a Cheyne, and to the researches of Harty Blane, McGrigor, Vignes Baly Copland and Morehead, that we are indebted for our present more accurate, scientific Knowledge of its pathology and Causes and of the anatomical lesions, with which we meet.—

The attending Surgeons of the military Hospitals and Prisons of Europe, have Enjoyed great advantages in the

obtaining a knowledge of this disease, had they Embraced the opportunity, for had they followed the march of the French armies from Paris to the Capital of Russia, or the Career of Wellington's veterans thro' the battle fields of the Peninsula, and over the burning Sands of Egypt, they could have found in their Camps and hospitals the same wide spread devastation and mortality, which had formerly been witnessed and described by Pringle in the Campaigns in Flanders and the results of their "Post mortem" Examinations, might have been of the utmost value to the Profession.

Our own Surgeons, who have poured "the oil of Confidence and the stream of Hope" upon the wounded and the dying, who have lighted the Smiles of joy on the Careworn cheeks of the invalid veterans whose gallantry had Contributed to throw around our Country's flag the brilliant halo, with which the victories of Monterey, Buena Vista and Churubusco have Encircled its Silver Stars, have had to contend with the formidable foe. Dysentery has swept off in the hospital, hundreds who Escaped the bullets of the Enemy in the field, nor have our Squadrons on the Southern Coasts, Altogether Escaped, but the advantage which Seamen Enjoy over Soldiers Exposed to Extreme and vicissitudes of temperature, and to Exhausting marches under a burning Sun, have rendered the mortality among them, much less than among the troops of our "Army of Invasion".

The forms of this disease are numerous and have been variously divided by authors. Hoffman distinguishes three viz: without fever with fever, intermitting or Continued, and attacks combined with a dangerous Petechial fever. Which he Considered Contagious. Stimuller divides it into two forms, benign and malignant, the first Sporadic, without fever, and not Contagious, the latter form violent in its character, increasing by Contagion, and not unfrequently combined with a pestilential fever. It has been also divided into inflammatory and Congestive, simple and Complicated Acute, Chronic, Bilious, malarious, typhus and typhoid, into simple and asyncritic, non contagious and Combined. The acute, without its Combined Bilious, Adynamic, malarious and Typhous forms is that which I propose, more particularly, to trace in the following pages

The inceptive is introduced by anorexia, Epigastric disturbance, furred tongue, thirst, bad taste, nausea and sometimes vomiting, uneasiness in the abdomen, skin dry, muscular soreness and weakness, or it may be ushered in by a chill accompanied with fever. As the disease advances, we have griping, frequent desire to go to stool, the discharges Copious and watery, at first, soon became small, Consisting of mucus tinged with blood, there is a sense of weight and dragging in the lower part of the abdomen, accompanied by fugitive pains or permanent tenderness. These symptoms may Continue without fever for some time, but as the disease progresses

the stools become more frequent and painful, aggravated by
tormina and tenesmus, and not unfrequently by borborygmi,
the discharge is bloody, with masses of lymph, inspated mucus
reddened by blood and resembling the mucous coat of the bowels.
The pulse is generally tense full and corded and there is fever
though all these Symptoms may Exist without much vascular
Excitement. These symptoms increase until the final stage, when
we have depression of strength, Cold Skin, sometimes petechial,
soreness and tension of the Epigastrium, feeble pulse, Countenance
singularly altered and often Cadaverous. In almost all cases
the bilious secretions are diminished, the result of the Colitis, the
Skin is also dry and the urine scanty. Occasionally we find
disorder of the liver, producing oppression in the Epigastric
region, frequent vomiting, yellow tongue, Conjunctiva Skin
and urine tinged with bile, more fever and tendency to delirium,
and Either an absence, increase or depraved state of biliary
secretions. This Complication adds much to the violence and
danger of the disease, it occurs Chiefly in tropical Climates,
and has been termed Bilious Dysentery. Another variety
termed Adynamic, attacks those who are Exposed to
various depressing causes, such as Confinement in Ships,
Prisons, besieged towns or camps. Soldiers, who are much
Exposed to wet and Cold, bad food, fatigue, weariness and

wretchedness of every kind, suffer much from this variety, the causes which I have named seeming to exercise a powerful influence in vitiating the secretions and prostrating vital energies. The dysentery, which is caused by irritation transferred to the large intestines from some other part of the body has been termed rheumatic or metastatic. The chronic variety is fully explained by its name which implies the condition. All these forms are interesting in their ætiology and pathology but to enter into a detail of all the various types would be to do more perhaps, than is expected from the young aspirant for the "summi honores," and would be, a task to which he would not feel himself equal.

Ætiology - Having linked with the varieties of this disease, many of the corresponding causes, I will briefly state, that, at one period in the "dark ages of Pathology," dysentery was ascribed almost exclusively to contagion. But, at the present period of science, this is a mooted question. The theory has many supporters but more opposers. The disease however seems to be produced, as previously stated, by miasma excess of heat or sudden variations of temperature, a damp heavy atmosphere, checked perspiration, a calcarious soil and epidemic influences. Certain ingesta, as crude fruit, unwholesome vegetables and putrid animal

matter seem also to be Exciting Causes. A change of diet from animal to vegetable, or the reverse, salt to fresh provisions or the opposite, is not unfrequent cause. Acid beverages badly fermented liquors, stagnant and Calcareous waters have all been mentioned. As stated in the miasmatic form it prevails simultaneously with autumnal fever, the former in high the latter in low grounds, this is of miasmatic origin. Under these Circumstances along with the ordinary symptoms in an aggravated degree, are those of a malignant, typhoid or scorbutic nature, and we have occurring a frequent, feeble, irregular pulse, a foul, brown or black and dry tongue, with sordes about the teeth, Skin Cold and Collapsed, sometimes hot and dry, with petechia, or Covered with dark livid spots, gangrenous vesications Etc etc We have the stools reddish brown or black, more copious than in the simple disease and Excessively fœtid. Sometimes the discharges are large and hemorrhagic, or mixed with altered unCoagulable blood. The prostration of the whole system is great, nervous disorder, low delirium, subsultus tendinum and stupor are frequent accompanying symptoms. In the worst form, the patient appears struck with death from the outset, the disease proving fatal in a very few days. This form when Combined with the bilious variety, produces a disease of unsurpassed malignancy. The Intermittent or Remittent

form occurs in Miasmatic districts & not unfrequently in Connexion with the Miasmatic fevers. It may also precede or follow these fevers, and when it is a Concomitant with any of them, it is apt to be very difficult to reduce. As the disease undergoes similar Changes with the fever, the importance of a Correct diagnosis Cannot be overrated. Dysentery is sometimes associated with Typhus fever, when it occurs as an Epidemic, and is frequently a Consequence of some previous Adynamic state of the System.

Pathology In acute dysentery, the Earliest changes occur in the Vascular layer. This tissue being attacked with inflammation, the blood stagnates and coagulates in the capillaries, thus deprived of nutrition the Extravascular parts perish, and are thrown off in sloughs. If the inflammation be moderate, the solitary glands chiefly suffer, because they are the most destitute of vessels, they lose their vitality, and, together with the portion of surrounding tissue in which the circulation has Ceased, are thrown off as small sloughs. Dr Baly thinks it probable, that when the inflammation is no longer active, the mucous membrane dies in small portions, and that these dead particles of tissue are wholly, or in great part, destroyed by the fetid Exudation, and not cast off as solid sloughs. Dr Parkes' views is slightly different, he says the anatomical signs of

true dysentery are primarily derived from inflammation of a peculiar structure, the solitary glands of the large intestines. The first effect is an enlargement of the glands, and if the inflammation continue unabated, ulceration speedily sets in, which, if the inflammation is not checked, after destroying the glands, spreads into the general mucous membrane, and implicates all the coats of the intestines. After the inflammation has extended to the submucous coat, ulcers may be formed, by effusion under the mucous membrane, which is then raised, in spaces of greater or less extent and finally detached. In this way, Dr Parkes thinks, are thrown off, in all probability, those portions of membrane of greater or less size, which are occasionally discharged. Thus he regards only as an epiphenomenon, consequent upon the true dysenteric process. There is another mooted question among these authors as to whether the solitary glands perish and are thrown off as solid sloughs, or by true ulcerative absorption. Hewitt says he has never met with cases, where the whole gland sloughed out, and that the enlarged glands are not thrown off, but a crack forms on the summit which slowly increases. Now whether the increase is by ulcerative absorption or by some analogous sloughing, is difficult to determine, and perhaps unimportant. The enlarged gland, with its small sloughs, has been compared by Pringle,

Hunter, Chisholm, Billingate and other authors to the Small pox pustule.

It is a fact admitted by all writers, that in the more severe Varieties of dysentery, there is a form of the disease of the large intestines Characterized by the inflammation being intused and leading rapidly to gangrene, the peculiarity of which form is that the Solitary glands are not peculiarly and primarily diseased. The affection of the glands is sometimes conjoined with the diffused gangrenous inflammation. The lower part of the ileum is also more frequently diseased, which induces Chisholm to believe that we had two forms, one Extending to the ileum, the other to the large intestines.

The Complications of dysentery will not receive much notice. In the Bilious variety, we have most generally, derangement in the portal circle, the liver Engorged, Enlarged or shrivelled, but the latter Condition has been rarely noticed, and occurs most frequently in chronic dysentery. The Complications of the Malarious variety seem to be chiefly in the Spleen, which is altered in structure, and in the liver which is Enlarged and black. The Adynamic, Typhus and Typhoid forms present lesions similar to those which occur in simple dysentery, Combined with ulcerations of the glands of Peyer, and all those organic alterations which Commonly occur in these Conditions of

the system. Dr Forbes says that if no author has as yet given a full description of the morbid anatomy of this disease, we must attribute it to the necessary imperfections of our science, and to the inherent difficulties of the subject. But the advances made by Drs Bale and Morehead should Encourage others to perseverance, and if our definitions are too narrow, our descriptions too restricted, we must return again to the great teacher, and with humble and attentive Eyes, scrutinize and study the book of knowledge, upon which we are permitted to gaze.

Appearances

To link morbid appearances with pathology will be, as it seems to me, to unite the Chain at its Extremities to Encompass, as it were, the disease more perfectly, and thus will I Endeavor to unite them. In the study of its pathology, I will first state the natural healthy Condition of the intestinal mucous structure. The Elements of this Compound coat are, first the basement or proper membrane, which doubles in upon itself and forms the tubular follicles, whose orifices are rendered distinct by the lens; Secondly, a Columnar Epithelium lining the Convolutions of the membrane proper; Third, a subjacent Vascular layer, Containing the nutrient vessels, between the meshes of which are the Cytoblast and amorphous matter and lastly, Certain bodies situate in and between the membrana propria,

and called the "solitary glands". The glands, basement membrane and Epithelium are all Extravascular and derive their nourishment from the vascular layer beneath. The morbid appearances of this membrane, as presented in dysentery, have been arranged by Dr Morehead under four heads, the first of which is the change so manifest in the color and texture. The change in color, he observed in Chronic Dysentery, when it was darkened, gray or black softened and thickened, that in texture, was Enlargement of the solitary glands. Effusion of lymph granules and shreds or tubular portions in the Colon and small intestines. He thought that these changes did not occur so frequently in tropical dysentery. Ulcers of transverse and Circular form are produced by Effusion of Serum and Lymph in the subcellular tissue of the transverse folds. The Circular ulcers originate in the mucous follicles. The separation of the mucous membrane in shreds or tubular portions is attributed to diffused inflammation of the Submucous Cellular tissue, analogous to the diffused inflammation of the subcutaneous tissue.

We find the nature of the Pathology proper to this disease to Consist in an affection of a special structure, viz the Solitary glands, and ulceration Commencing in these bodies. ulceration produced by Effusion of Serous lymph or pus beneath the mucous membrane. There is General thickening

of all the coats of the intestine from effusion of lymph, and hypertrophy of the muscular fibres. There occurs also acute inflammation of the general mucous membrane, producing a loss of nutrition, as indicated by the pulpy state of that tissue, and leading rapidly to ulceration. It is the opinion of Dr Baly, that all these appearances and changes are to be referred to the same disease, that the special affection of the Solitary Glands and the general sloughing of the whole mucous membrane are degrees of the same action, and that the solutions of continuity of the membrane, in whatever form presented, are all derived from the same process viz one of mortification and sloughing. The mucous membrane of the large intestines, Especially the lower portions of the colon and rectum, always Evinces signs of inflammation. It is much reddened and thickened and not unfrequently ulcerated. It was Considered by the old writers, a subject of great difficulty to learn the true pathology and morbid anatomy of Dysentery but the imperfect knowledge attained by them, must be attributed to their own apprehensions of danger in dissections. Pringle made but few dissections, and Hunter tells us that he placed little confidence in any post mortem Examinations made in the military hospitals. Durandeau, whose work Contains such a learned description of its Causes, Knew so little

of its morbid anatomy are to believe the seat of dysentery, to be in the mesentery. Of late years much more accurate researches and Examinations with regard to the morbid changes, have been made. Those of Dr Bal, in the Millbank prisons and of Dr Morehead in the general hospital at Bombay, have added much, and in fact contributed to medical science all that we, at present, know of its morbid anatomy. Yet though much has been done, more remains to do, future researches may supply the want of information in this particular.

The only disease with which Dysentery is likely to be confounded is diarrhœa, and the discrimination between these two is not of vital importance for the treatment is nearly similar ——

Acute dysentery when of simple and ordinary type is generally Easy of management. When permitted to run into the more advanced stage, or complicated with other diseases, it is frequently most intractable. The favorable signs are, a discharge of faeces moderately tinged with pure blood, at an Early stage of the disease, bilious and natural stools. Cases are on record where sloughing off of a large portion of the intestine had occurred, and yet recovery had taken place. I am inclined to think that these tubes or membranes Evacuated are oftentimes false membranes, formed tubularly by coagulated deposits

of lymph instead of parts of the intestinal Canal, as supposed by Prof Chapman and others. As before stated, Adynamic dysentery Complicated with biliary derangement is a malegnant form of disease, and requires, in order to be brought to a favorable termination, the prompt attention of the practitioner at the outset and his most careful management throughout.

ment. The therapeutic agents in Dysentery are numerous, and authors differ greatly as to their relative merits. Dr Wood says that the most rational treatment is that, which varies according to the violence of the disease and the diversities arising from associated affections. Bloodletting both local and general, has many supporters, and when the disease is attended by much pain, tenderness and febrile Excitement, is no doubt, very valuable. Bloodletting at intervals by leeches has been highly recommended by Dr Baly, and if the disease in its simple inflammatory form be not relieved, to administer Calomel and Opium, in small doses every two, three or four hours, until the Evacuations and other Symptoms indicate no inflammatory action or till the gums show the Effects of the mercury. If depletion by bloodletting be not resorted to at first, it is worse than useless to attempt such a course, when the disease has progressed and the vital powers are prostrated. Emetics at the commencement when the stomach is loaded with acrid accumulations,

have been highly spoken of, and a few doses of Ipecacuanha, or Sulph Zinc in the beginning of the treatment may be serviceable. Cathartics, aperients are of decided efficacy, in freeing the bowels from irritating secretions, fecal accumulations in diminishing Congestion in the portal circle, and in producing feculent discharges that have been long retained. The best are, Calomel as a cathartic, Castor oil as an aperient. Some practitioners prefer the saline purgatives, Especially when the stomach is irritable, when there is much fever, with a hot, dry Skin. Diaphoretics are admired by some, their agency being to give External direction to Circulation, they may in some Cases be useful. The Dover Powder, alone or Combined with Calomel, in minute doses, is among the best and is preferred to the More refrigerant diaphoretics. Opium is an invaluable remedy Combined, it has derived action, and its pleasant Effects, after bloodletting in relieving pain, and producing the quiet repose so necessary is a strong argument in favor of its use. In Every form of Dysentery, the Acute and Chronic, the Adynamic and Miasmatic, opium holds a deservedly high rank. Either used alone or in combination. It has been united with success with Calomel, Ipecacuanha, Sulphate Copper, Sulph Zinc, Nitr Acet Lead, and Tart. Antimony, in various forms of the disease. Cream of

Tartar has been praised by Dr Cheyne, and most of the
Vegetable and mineral acids in some form or other, have been
Exhibited successfully, there often appearing an alkaline
Condition of the discharges which indicates this class of
remedies. Capaiba and oil of Turpentine are good agents
in Chronic, Ulcerative, and Typhoid forms of Dysentery.
The whole class of sedative astringents, Cathartics, Aperients
from the most powerful of medicinal agents, down to the diluent
agency of Effusions of warm or Cold water, have been called
into requisition in the treatment of this disease. To
sum up in a few words the general remedies, local
bloodletting, Calomel, opium and the mild aperients
says Dr Baly, are the agents, to which we may look for
the Cure of this disease. Enemata to relieve the tenesmus
fomentations and Emollient Cataplasms, have been found
very useful, and are rendered still more so by the addition
of anodynes. Rubefacients and anodyne Embrocations, have
been recommended as local remedies.
In describing the treatment of this disease, I have not specified
any particular type for management, but have left to the
discriminating mind, to select, from the various forms and
pathological conditions, such remedial agents, from those
I have Enumerated, as may be deemed most suitable—

With the pathology in view and a just therapeutic
knowledge no Error can be made in meeting the Exigencies
of any of the varieties of Dysentery.

An
Inaugural Dissertation

On
Typhoid or Enteric Fever

Submitted To The Examination

Of The
Provost, Regents, & Faculty of Physic,

Of The
University of Maryland

For The
Degree of Doctor of Medicine,

By
Charles Russell.

Baltimore.
1848.

Typhoid or Enteric — Is a common pe-
bile affection, presenting a considerable
diversity of symptoms, yet having in gen
eral a certain recognisable character,
and probably constituting in all its
forms and the same disease. It is
confined to no limit, and prob-
ably belongs to the whole human fam
ily, and may be found in all inhab-
ited regions. The nomenclature of this
disease is unsettled and perplexing.
It is the ileitis of Dr. Stokes, the dothin-
enteritis of Bretonneau, the follicular
enteritis of Andral, the mucous fever
of Roederer and Wagler, the adynamic
gastro-enteritis of Broussais, the entero
mesenteric fever of Petit, the nervous
fever, typhus mitior and typhoid of
others. Enteric seems more fully to
express the fact that this fever is dis-
tinguished from all other idiopathic
fevers by the frequency and extent of
the intestinal disease. The intestinal
affection is as characteristic of this dis-

case, as the eruption is of small pox.

This disease has different modes of access. Sometimes it's mode of invasion is very mild. The patient feeling unwell for several days, yet will keep about and attend to his usual occupation, complaining all the while of a sense of languor, loss of appetite, soreness of the muscles, and perhaps some pain in his limbs; thus he may go for a week or two, everyday his symptoms getting worse till finally he is obliged to give up and go to bed. Or it may come on suddenly with a chill, more or less severe, accompanied with head ache and pain in the back and limbs, especially in the lower extremities, and complete debility. The chill is usually not very severe. It occurs in a majority of cases, generally in the course of the day, & may be repeated frequently during the period of the disease. Not leaving the chill at night or in the

intervals when these are repeated there is more or less heat and dryness of skin. This heat differs very much in many respects; in some patients it is moderate in degree and pretty generally diffused over the body, In others it is high and burning and often unequally distributed.

Sometimes the head and trunk will be excessively hot while the extremities are cooler than natural, and vice versa. The skin presents quite different states of dryness and moisture in different patients. In some cases it remains dry during the course of the disease, while in other cases the patient is subject to frequent and excessive sweats. The pulse is frequent, usually over 100. small soft and compressable. About the fifth day a dry cough with thick glary sputa commences. It is generally so slight as hardly to attract the attention of the physician or patient un-

less, the fever is complicated with pneumonia.
There is dry sonorous rhonchus with
accelerated respiration. Pain in the
head is one of the most constant
symptoms. Indeed it is seldom absent.
It varies in degree and character in
different patients. Most frequently it is
dull, heavy, or throbbing, but in some
cases it is intense and acute, occasion
ing great distress to the patient. It oc-
cupies most frequently the forehead &
temples, but it often extends over the
whole head, and is frequently accom
panied with soreness of the eyeballs.
The headache is generally accompanied
with pain in the back and limbs—
These pains go off with the headache
as before. The headache usually contin-
ues for a week after which it often-
times may to stupor & delerium and
does not return when these are dis-
sipated. Dulness or lethargy is one
of the most common symptoms, ap-
pearing early in the disease and shon

ing itself in the expression of the countenance, which is blank and dejected. The patient is unwilling to be disturbed, and talks with difficulty. This dullness usually increases till it amounts to stupor or coma, yet it is seldom so great that the patient may not be roused by speaking to him in a loud voice.

About the seventh day or later delerium supervenes. It is generally mild; observable more particularly at night, or when the patient awakes from sleep. Sometimes it is violent so that the patient screams, raves, and requires the aid of several persons to restrain him. In the last stages of the fever the delerium is commonly low and muttering. Preceding or alternating with the delerium, there is often more or less stupor or drowsiness. Frequently obtinate vigilance is associated with the stupor and delerium.

The hearing is generally impaired. Most commonly there is some deafness with singing in the ears; though this sense

may be acute. The sight is rarely affected; the eyes are often suffused. Taste is dull or perverted. The cutaneous sensibility is not often affected. There is a general soreness of the muscles with a want of tone, and frequently a spasmodic contraction of them giving rise to subsultus tendinum and twitching of the upper lip and wing of the nose. The tung undergoes almost every variety of change. In some cases it remains nearly natural through the whole course of the disease. In other cases it is smooth, red, and moist with a tenacious adherive matter. In grave and protracted cases, sometimes the tung having been covered with a light, or yellowish, moist coating, for a few days gradually becomes dry and brown in a stripe along its middle, and red at its tip and along the edges. In other cases it becomes dark over the whole surface, ~~stiff~~ and cracked with fissures. It is often protruded with difficulty having a tremulous motion

The dryness of the mucous membrane often extends to the posterior fauces, giving rise to a difficulty of swallowing and a sensation of rawness. The lips are often covered with crust, and the teeth with sordes.

The patient generally loaths food throughout the whole course of the disease. His thirst is proportionate to the febrile excitement; cool drinks are generally craved. In many cases gastric or hepatic derangement or both are prominent symptoms, exhibited by tenderness of the epigastrium, nausea and vomiting of bilious matter, and yellowness of the conjunctiva and skin. Diarrhoea is a frequent symptom, though not always present. It may vary in degree from one or two liquid stools, looking like pea soup, to twenty in the course of twenty-four hours. It is more common in the latter stage of the disease. The patient often suffers

much with pain in the abdomen through the whole course of the disease. Tympanitis is commonly associated with the diarrhoea and abdominal pains, accompanied with gurgling elicited by pressure over the region of the cecum. This disease generally produces a marked and sometimes extreme emaciation. Retention of urine is not uncommon in the latter stages of this disease. In consequence of the want of sensibility the bladder becomes overdistended and loses its power of contraction.

Hemorrhage is another common symptom of Enteric fever; taking place in the early stage from the nares, and in the advanced stage it occasionally occurs from the bowels. It is then a bad sign, and injurious by the exhaustion it produces. One of the most characteristic phenomena of enteric fever is the rose-colored spot or eruption.

This consists of small red spots a line in diameter or more slightly elevated, disappearing under pressure and reappearing when the pressure is removed

They appear first and most numerously on the abdomen, extending to the chest and extremities and very rarely to the face. They generally first make their appearance between the eighth and fifteenth days occuring in successive crops, each lasting a few days and then gradually fading away. This eruption differs from petechiae, which sometimes appear in this disease and is characteristic of typhus fever, by its slight elevation and less livid hue, and by disappearing on pressure.

From the twelfth to the fifteenth day sudamina generally appear, on the neck, chest, and abdomen, and in the axilla. They are small circular vesicles, remaining several days then gradually disappearing.

In the advanced stage of enteric fever there is a tendency to sloughing of the skin, owing to the feble capillary circulation, and diminished vitality of the surface. Blistered surfaces are attacked with ulceration and troublesome bed sores occur.

Such are the general symptoms of this disease. They seldom or never all occur in an individual case, but some of these signs are present in every case of enteric fever.

Anatomical Lesions—In almost every organ of the body signs of inflamation have been found after death from enteric fever. The most common alteration of the heart is softening of its tissues and flaccidity. The internal surface of the aorta is frequently more or less changed in color, being tinged with red blood, probably the result of imbibition.

The blood drawn during life often does not differ from its condition in

health. The most pregnent attera-
tion in its character is a diminu-
tion of its natural proportion of fibrine
It rarely exhibits the the buffy coat
unless the fever is complicated with
some inflamatory disease. The
lungs do not often appear to suf-
fer extensively in this disease. Some
congestion and even induration
of the lung is sometimes found. The
bronchia and air passages often ex-
hibit signs of inflamation and rarely
the epiglottis and larynx are ulcerated.
For a large proportion of cases the
brain is healthy. Sometimes the mem-
branes exhibit signs of congestion or in-
flamation; sometimes there is a slight
serous effusion into there membranes.
The pharynx and esophagus in a small
proportion of cases have been found
ulcerated. The mucous membrane of
the stomach is pregnently softened,
reddened, thined and rarely ulcerated.
There is always a lesion of the small

intestines in typhoid fever. It is peculiar to it being found in no other disease. The duodenum present very much the appearance of the stomach. All the small intestines are sometimes distended with flatus and the mucous membrane of these intestines is frequently redder than natural or otherwise changed in color. But the invariable and peculiar lesion of these intestines is an alteration of of Peyers Glands. These are thickened and elevated one or two lines above the surface of the surrounding mucous membrane The largest are two or three inches long and half an inch or more in width. There are two varieties of these augmented glands, the hard and the soft. The former are hard to the touch and contain a yellowish white firm but the matter, and present smooth shining surfaces when cut. The latter are softer less elevated and destitute

of the whitish layer of matter belonging to the hard variety. The hard patches may undergo resolution or ulceration; the soft always ulcerate. The ulceration may extend only part way through the intestine, or it may go to complete perforation, opening a communication into the cavity of the peritoneum. The glands most affected are those nearest to the ileocecal valve, but the solitary mucous follicles or Brunners glands are sometimes affected. The mesenteric glands are as constantly diseased as the mucous follicles, being reddened enlarged and softened, but are rarely ulcerated.

The large intestines are almost always distended more or less with flatus. Sometimes to such a degree as to push up the liver, stomach & diaphragm and occasion dyspnoea & other distress to the patient. Occasionally ulcerations are found in the cecum and less frequently in the other large intestines.

The spleen in almost every case suffers more or less in this fever. Enlargement and softening are it principle alterations. In many cases it is three or four times its natural size. The softening is sometimes so great as to reduce it to a mere pulpy mass. The liver is sometimes softened and paler than natural or otherwise changed in color. The mucous membrane of the gallbladder is sometimes inflamed. The pancreas; salivary glands Urinary apparatus; and sexual organs are generally found healthy.

Causes:— Of these nothing precisely is known. Age seems to have some influence in it production. As it occurs most frequently between the ages of fifteen and thirty. Rarely occuring between thirty & fifty, and almost never after that age. It is much less frequent in the first fifteen years of life than in subsequent same period. It more frequently attacks those who are unacclimated, who have lived but a

short time in a place, than it does the older residents. Its contagiousness is a disputed point. One on which the best observers are not agreed.

There are many who believe it to be entirely free fro— contagion, while others as firmly believe that it is always propagated by contagion.

The truth probably is that it is febly-contagious and is sometimes spread by its infectious power. This fever rarely attacks an individual more than once, which is a proof of its contagiousness. It occurs in all seasons but most particularly in the autumn & winter. Sex seems to have but little if any influence in this disease.

Confinement in low dark badly ventilated apartments, with insufficient or unwholesome food and a want of cleanliness would seem to favor its production. The real nature of this disease is unknown. It seems to be allied to the exanthematous

fevers by its intestinal eruption and by the rare colored spots.

Diagnosis — Says Dr. Bartlett "There is no disease more readily and positively recognized than a case of well marked Typhoid fever. It is hardly possible to compound it with any other affection." Chill more or less severe, accompanied or followed immediately with headache, a hot dry skin, frequent pulse pain in the back and limbs disappearing in a few days; slight cough with a sonorous rale over the chest; thirst & dullness and confusion of intellect; delirium; epistaxis; deafness and ringing in the ears; subsultus tendinum; loss of appetite; nausea, hypochondria; rare-colored spots appearing in the second week with subsequent exudations; dryness of the tongue; general debility; diarrhoea; are symptoms which mark no other disease, and when found in connection, fa-

bid the possibility of an error in diagnosis. In every case of Enteric fever some of these diagnostic signs are present to point out the character of the disease. There are two diseases with which Typhoid fever is liable to be confounded. Viz. Typhus and Bilious remittent. Typhus commences more suddenly and is of shorter duration. Instead of diarrhoea it is characterized by constipation. Epistaxis is not so frequent. There is more stupor, more suppression of countinance and greater debility. It has petechiae and not the rose colored spots of Typhoid The bilious remittent may be distinguished from Enteric by its regular remissions; short duration vomiting of bilious matter and yellow skin, and tendency to endin intermittent; by its want of diarrhoea, epistaxis, dulness of countinance tympanitis and rose colored spots.

Prognosis— Not because enteric fever is generally fatal, but because we do not know what accident may happen. it prognosis is always grave. There is no proportion between its fatality and the severity of the symptoms. The apparently worst cases sometimes get well, while those that are mild prove fatal by ulceration and perforation of the intestines. So that the prognosis is difficult and should be cautious & guarded. Among the unfavorable symptoms are complete & steady delirium; profound coma; hemorrhage from the bowels; excessive diarrhoea; parched tung; sordes on the teeth; involentary stools; retention of urine; frequent feeble pulse; great prostration; coldness and clammyness of the skin; excessive subsultus; picking at the bed clothes or imaginary objects, and a notion on the part of the patient that nothing is the matter with him.

The favorable symptoms are a less frequent pulse; cleaning of the tung; returning moisture of the skin; increased conciousness and disposition to take notice of things; more quiet sleep, and a desire for food.

Treatment.— We have no specific treatment, for this disease, none that cures it; for it has a law of duration of its own, and it will run its course in spite of all treatment. It has a natural tendency to get well of itself; and all that we can do is humbly to assist nature in her efforts to drive the malady from the system. We must treat the symptoms and endeavor to prevent any fatal accident that might happen. And by sustaining and carefully watching our patient, we must make his situation as comfortable as possible, lest nature should prove inefficient and sink under her load.

Many different and even conflicting methods of treatment have

been adopted by different distinguish ed members of the propession. The almost exclusive treatment of one consists in copious bloodletting, pregnently repeated & of local depletion in the intervals. Another attempts to wash the disease out of the system by the abundent use of evacuants; and commences his treatment by the administration of an emetic, and this to be repeated till free vomiting is procured. The operation of the emetic is followed immediately by the free use of cathartics, without much regard to the period of the disease, the state of the bowels or condition of the patient. This treatment is to regularly continued till convalescence is established; using in conjunction other soothing remidies as the symptoms seem to demand. A third would combine the two modes of depletion as his principle treatment, using each with greater moderation.

A fourth would rarely bleed or give an emetic, and says "he has never lost a patient whose bowels remained constipated throughout the whole disease. These widely different modes of treatment have been pursued by their advocates; and contrary to what might have been expected, with nearly the same success. Thus proving that the disease sometimes get well in spite of treatment, and sometimes proves fatal under the best treatment. In cases of mild simple Enteric fever, where the pulse is not much accelerated, where the heat of skin is moderate, with no nausea or pain in the stomach or bowels, probably the best treatment is to let the disease alone. And more by keep the patient quiet and comfortable, giving him simple refrigerant drinks & regulating his diet. In severer cases, where the pulse is rapid with great heat of skin, nausea or

vomiting; pain in the abdomen, a gentle bleeding may be advisable in the first stages. On the first day 15 or 20 ounces of blood may be taken from the arm and leaches or cups may be applied to the epigastrum. To obviate the nausea or vomiting, emetics of ipecacuanha may be given. The bowels should be kept open by mild laxatives. The diet should be of the strictest kind. Give cold or tepid acidulated drinks. Apply emollient fomentations to the epigastrum. Cold ablutions should be used to abate the heat of the surface. The head, arms, and legs should frequently be sponged with cold water; and the whole body may be treated with the same application, when the skin is uniformly hot and dry. In debilitated cases diluted spirit may be substituted for pure water. The patient may drink cold water and take a little ice in his mouth if he wish it, when

not greatly prostrated. Diaphoretics should be employed from the commencement. Some of the antimonials may be given in the first stage combined with the citrate or one of the carbonates of potassa or sodae. If the antimony irritates the stomach, or is too sedative in its influence the potassa or sodae alone may be given. When not contraindicated Opium combined with Ipecac. may be given. When the headache is severe, leaches may be applied to the temples, and a mustard pediluvium be used. If pains in the abdomen with flatulence or meteorism, warm fomentations, and rubifacients may be applied to that region, and leaches to the anus. If the diarrhoea is very troublesome, it may be moderated by injections of starch and water or flaxseed tea, or by giving some preparation of opium. Nervous symptoms, such as delirium, restlessness,

wakefulness and disturbance, may be treated with sweet spirit of nitre, Hoffmans anodyne, as camphor water, and opiates when the febrile excitement is not very high. Violent delirium may be quieted by leaches or cups applied to the head, as blisters to the back of the neck. If the epistaxis is very copious, cold astringent lotions must be applied, and if that is not effectual, plugging of the nostril must be resorted to. If intestinal hemorrhage occur, acetate of lead or opium or the muriated tinct. of iron may be given; as an astringent enemeta. In grave cases, the condition of the bladder should be carefully watched, and the retention of urine guarded against. If there is great prostration, stimulants and tonics must be used. Sulp. ether, carb. ammonia, wine whey, wine or brandy may be given when a rapid and immediate

stimulation is required. Quinine and serpentaria may be given where a permanent tonic effect is wanted.

Dr. Wood recommends the oil of turpentine in the last stages, as a stimulant, and especially as an alterative to the ulcerated surfaces of the intestinal mucous membrane.

If perforation of the intestine occurs, the patient must be kept quiet, and opium must be given so as almost to narcotize him.

Throughout the whole case good nursing is indispensible; without which all medical treatment is of no avail. The patient should have a spacious and well ventilated apartment, and the greatest attention should be paid to cleanliness. In short the greatest care should be taken to render the patients situation as comfortable as possible in every respect.

Remembering that owing to the morbid state of his blood and the languid capillary circulation he is liable to sores, his position in bed should frequently be changed and soft pillows be applied to the most exposed portions of his body. During convalescence he must be closely watched. His bowels should be kept daily opened. Gentle tonics should be given to obviate night-sweats and promote the healing of the ulcerated surfaces of the alimentary canal. His diet should be nutritive, but mild and easily digested; and he should be guarded against an excessive indulgence of his appetite; lest he induce a fatal relapse.

# An
# Inaugural Dissertation
# on
# Pneumonia

Submitted to the examination
of the
Provost, Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by

Gledstanes Aylmer Moore
of Baltimore County
Maryland

Feb. 15th 1848

On applying for the degree of Doctor of Medicine, each applicant being compelled to present for the inspection of the Professors a written dissertation upon some subject appertaining to his profession, he should choose from among the very many diseases which will hereafter come under his observation and care, one about which he can write from experience no matter how small.

Having during my pupilage seen several well marked cases of Pneumonia, and had it in my power to examine and watch their progress and treatment from day to day, I shall select that disease for my Thesis, and give in as short and correct manner as possible a description of the disease, the modes of detecting its existence by Physical signs, general symptoms, pathology, treatment, &c—

Pneumonia is an inflammation of the lung, occupying the whole of the constituents of the parenchyma, including the blood vessels, air cells, and the small bronchial tubes. It prevails among all classes, and is found at all seasons but more

especially during the spring and winter months.
Its most frequent cause is exposure to cold particularly when previously heated or perspiring,
it is a disease generally speaking of easy diagnosis, and when early seen the treatment is simple
and successful; Its seat varies, we have it most
generally attacking a considerable portion of
the lung, constituting a simple Pneumonia,
which is the most common form of the disease,
sometimes both lungs are attacked simultaneously, it is then called double Pneumonia.
Again it occupies distinct lobules with sound
lung intervening, constituting Lobular Pneumonia.

We frequently find large portions of the
Pleura concerned with the inflamed lung
which is called Pleuro-Pneumonia, when
associated with a typhus state of the body
it is termed Typhoid Pneumonia &
The disease is acute or chronic, although
Chronic Pneumonia as a consequent of acute
is exceedingly rare, it is usually found accompanying tuberculous deposits. —

Pneumonia has three distinct stages, each one of them marked by its peculiar general and physical signs, Laennec gave to the first of these stages the name of engorgement, to the second red hepatization, and to the third grey hepatization, but Andral differs with him as regards the condition of the lung in the second stage, he thinks that it is not hepatized, that is, it does not present the hardened appearance of liver, but on the contrary is very friable and easily broken, presenting rather the softened appearance of the spleen in certain diseases, he therefore prefers the term red softening. Each of these stages has its own peculiar physical signs, thus in the first, or state of engorgement, we have certain sounds called crepitant ronchi, which when their characteristics are well defined, are almost pathognomonic of inflammation of the lungs, although we may have like sounds in some other affections such as adema of the lungs, and

and pulmonary apoplexy, but on account of the extreme frequency of pneumonia, contrasted with the comparative rareness of the others, and in addition the crepitation of pneumonia only existing at the end of inspiration, whereas in the others it is heard during inspiration and expiration, the diagnosis is rendered perfectly clear and certain.

It has been a matter of much conjecture as regards the cause of crepitation, or what condition of the lungs produces it. Many auscultators think that it is occasioned by the bursting of very small bubbles of mucus in the air vesicles, and small bronchi, others think it probably depends on the friction of the pulmonary vesicles which are somewhat dried by the existing inflammatory excitement, but Dr. H. G. Smith the translator of Barth & Roger on auscultation, puts forth I think the most satisfactory theory as to the cause of this ronchus.

He thinks that the suspension of the aqueous exhalation from the bronchial mu-

-cous membrane, necessarily leaves the mucus with which the air passages are lubricated in so thick and tenacious a condition, that when their membranes come in contact they are glued together; this contact is readily produced during the act of expiration, and the capillary congestion and interstitial effusion, greatly increasing the volume of the lung and facilitating the adhesions of the bronchial vesicles.

Now during each inspiration the air rushing in and distending the vesicles, overcomes those adhesions, and the separating of the membranes glued together by tenacious mucous, produces this crepitant ronchus.

Sounds resembling this ronchus can be produced by throwing salt upon a heated shovel, or rubbing a lock of hair closely applied to the ear, but a piece of fresh sponge cake pressed between the fingers, very near the ear will give a better idea of the sound than anything else.

In the second stage of the disease this

ronchus disappears and gives place to other sounds, although we sometimes hear crepitation coexisting with the sounds heard in the second stage, from the fact that while a portion of lung is consolidated we have another, in a state of simple engorgement.

The physical signs in the second stage are bronchial respiration, a particular modification of the voice called bronchophony, and dullness on percussion, these signs are more or less marked according to the extent of lung involved. The bronchial respiration is caused by the condensation of the pulmonary substance, which of course gives dulness on percussion.

Bronchophony is produced by the unnatural density of the pulmonary tissue surrounding the bronchi, rendering it a better conductor of sound than the healthy lung.

The third stage presents the same dulness on percussion, and the same respiratory sounds, a mucous rale however supervening upon

the bronchial respiration, caused by the presence of pus in the bronchial tubes.
Should an abscess form a communication with the bronchia, a gurgling rale with cavernous respiration, and pectoriloquy, will be the diagnostic signs. —
General Symptoms. — Pneumonia is usually ushered in with a chill, followed by fever, cough, and pain in some part of the chest. When the disease becomes more fully developed, the fever increases, the breathing is oppressed, and the cough which in the first is dry, becomes more severe, and a thick viscid expectoration tinged with blood, is thrown off.
At times the disease comes on more insidiously following bronchitis, which continues some days before the signs of Pneumonia are well marked.
Delirium frequently comes on in the course of an attack of Pneumonia, and is rather an unfavorable symptom, shewing that the due arterialization of the blood is largely interfered

with by the affection of the pulmonary tissues.

Pathology— In the first Stage, or that of engorgement, the lung is gorged with bloody serum, its external part is of a dark reddish colour and under pressure the crepitation is much less marked than in a healthy portion, the mucous membrane of the small ramifications of the bronchia is of a deep red colour, and covered with a dry viscid secretion, the lung is more inelastic, and more easily torn, but this engorged condition will often be found in dead bodies, and is not owing to any inflammatory condition but from mere mechanical engorgement, and the only way to make a proper distinction between the two, is by the situation of the engorgement, whether it be a dependant portion or not, and by the antecedent symptoms.

In the second Stage, or that of red softening, the lung is perfectly free from air, is red both external and internal, and pressure no longer produces any crepitation. Its cut surface sometimes presents a uniform red appearance, and sometimes it is slightly mottled.

The lung is denser and more solid than in the first stage, and also more ~~easily~~ friable, and is easily crushed and broken, which results from the softening of the cellular tissue which holds its component parts together. On examining the torn portion with a magnifying glass the pulmonary tissue will appear to be composed of a crowd of small red granulations lying close together, Dr Watson thinks that they are the air cells, clogged up, thickened, and made red by inflammation.

In the third stage or that of grey softening the lung is dense, solid and impervious to air as in the second stage, but there is an entire change of colour, and instead of the dark red, it presents externally and internally a yellowish or greyish appearance, and when cut, there exudes a yellowish opaque purulent fluid, occasionally tinged with blood, the texture is still softer and more friable than in the second stage, and in handling should the slightest pressure be made, a cavity is formed which immediately fills

The lung is denser and more vital than the liver, and also more ~~easily~~ [illegible] and is easily crushed and thrown, which readily gives the softening of the cellular tissue which holds the component parts together.

The accompanying diagram will serve to represent [illegible] and dissolved to be carried off as blood. And pneumatic lung cells together. Where they are the cells changed into tissue and made by the [illegible].

In the third stage or that of lung softening the lung is denser, solid and more [illegible] to the second stage, but there is one particle change of colour, and resistance of the elastic and of [illegible] externally used [illegible] a yellowish appearance, and when cut [illegible] [illegible] [illegible]

with pus, and might be very readily taken for a recent abscess, which according to the experience of many eminent medical men very seldom occurs, although abscess of the lung used to be spoken of as a very common occurrence. —

Treatment. — The treatment of Pneumonia must be prompt and vigorous. Bloodletting is the most efficient remedy, and there is probably no disease that bears the loss of blood better than a well developed Pneumonia, the quantity to be taken must depend upon the constitution of the patient, the extent of the inflammation, and the condition of the pulse, if he is vigorous, the pulse strong, and hepatization not fairly set in, from fifteen to thirty ounces may be taken, or the patient bled to syncope in the sitting posture. should the symptoms not abate in the course of twelve or twenty-four hours, we may bleed again, and continue it at such intervals until there is a decided check to inflammatory symptoms. The pulse is often feeble owing to partial asphyxia produced by sudden and extensive congestion of the lungs,

and should not be a check to bloodletting, but on the contrary the condition of things actually demands it, and during its use the pulse instead of becoming feebler. rises under the use of the lancet.

Purgatives do not appear to exert that beneficial influence over pneumonia that they do in inflammations of other organs, and consequently their continued use is not indicated, but they are not to be entirely discarded, as their occasional administration is beneficial in clearing the intestines from any irritating matter which may be lodged or accumulated within them.

Next to bloodletting the most powerful means we have in the treatment of pneumonia is the administration of Tartar Emetic in large doses. This medicine appears to exert a peculiar influence in checking it, and so highly is it esteemed by some practitioners that they almost consider its curative powers sufficient without bloodletting, which I think is rather overrating it, but

when the two are conjoined, it is then a most powerful and invaluable remedial agent. It may be given in doses from the fourth to a grain, and increased or not according to circumstances. The first dose or two is apt to produce nausea, and vomiting, but after that, the stomach tolerates it, and it is borne without any unpleasant effects, Should it produce purging, which is generally the case when given alone, it should be combined with some preparation of opium which will counteract that tendency.

Calomel is another valuable medicine in the treatment of this disease and certainly its powers are very great, in the second stage especially its use is strongly recommended, and thought by Dr Watson to be far more worthy of confidence than Tartar Emetic, and from the fact of its diminishing the amount of fibrin in the blood, and its power of promoting the absorption of that already effused, I think it a remedy worthy of the highest consideration. It should be given so as to produce

slight ptyalism and the safest and best way to effect this, is in the administration of small doses frequently repeated.
Should prostration or sinking of the vital powers come on during its administration, Stimulants such as Carb. Ammonia, Wine &c are indicated, and should be given until proper reaction comes on when they should be discontinued, or administered with extreme caution.
Should the Calomel produce irritation of the bowels, or purging, it should be combined with opium or some of its preparations, or if it cannot be borne internally, it should be applied externally in the form of ointment, either over a blistered surface, or rubbed in the arm pits, or over the inner parts of the thighs.
Blisters are to be used only after proper depletion, and when applied should be large and placed as nearly over the inflamed lung as possible, one objection to their use is, that they interfere with the auscultatory

examinations, but of course that must be a secondary consideration, and if the judgement of the practitioner is in favor of them, they should be used.

The strictest Hygienic rules must be observed in the treatment of pneumonia. the patient should be kept in a room free from all drafts of air, and the temperature should be uniform, and warm, but sufficiently ventilated, he should be well covered and not allowed to expose any part of his person to the atmosphere, more especially if it is cool; his diet should consist of the lightest articles. such as, barley water, gruel, &c and during convalescence great care must be taken that he does not indulge too freely, increasing the strength and quantity of food, gradually and carefully.

In Typhoid Pneumonia bleeding is not borne, and main reliance is placed in calomel, carb. ammonia, wine, serpentaria, quinine &c varying the stimulus according to the amount of debility. — The diet should be nutritious in

the early stages, such as arrow Root Tapioca &c, in the advanced Beef tea Jellies wine &c. Chronic Pneumonia is generally complicated with Phthisis. Iodine is the proper internal remedy, counterirritation by means of successive blisters, croton oil & tartrate of antimony the external. On the occurrence of suppuration the chief remedies to be relied on are the Infusion of Wild Cherry Bark, Mineral acids, wine &c the inhalation of the vapour of Tar is said also to be of considerable service during this stage. —

I have thus glanced over the principal points in the diagnosis, pathology, and treatment of Pneumonia without entering into minute details.

There may be different cases which will require different modifications of treatment, but about which no particular plan can be laid down, and they must be left to the judgement and discretion of the practitioner. —

I cannot close this — I fear imperfect thesis —

without returning to you gentlemen my
most heartfelt and sincere thanks for the
kind courtesy always extended towards
me, and believe me that my intercourse
with you will always be reverted to with the
most pleasing and grateful feelings.

A

Inaugural Dissertation

on

# Acute Pneumonia.

SUBMITTED TO THE EXAMINATION OF

The

Board of Trustees & Faculty of Physic

of the

## University of Maryland.

for the

Degree of Doctor of Medicine

by

Ernest L. Snyder.

of Pennsylvania.

An

Inaugural Dissertation

on

# Acute Pneumonia,

SUBMITTED TO THE EXAMINATION OF

the

Provost, Regents, & Faculty of Physic

of the

# University of Maryland,

for the

Degree of Doctor of Medicine

by

Enos P. Gunter,

of Virginia.

Scale Harmonia.

SUBMITTED WITH EXAMINATION OF

Musically Illustrated.

By

An

Inaugural dissertation

On

Menstruation, Submitted

to the

examination of the Provost,

Regents, and Faculty of Physic

of the

University of Maryland,

for the

degree of Doctor of Medicine

by

Edward V. Edelen

of

Maryland, Anno Domini 1848.

To

Richard H. Thomas, M. D.

Professor of Obstetrics in the

University of Maryland,

This essay is inscribed,

As an humble acknowledgment

of the high esteem entertained for

the nobleness of his mind, and the

anxious and generous sentiments

of his heart.

By his indebted Pupil,

The Writer.

As it is required, by an old established Custom of this University, that each candidate for graduation, previous to presenting himself for examination, should submit to the perusal of the Faculty, a Thesis of his own composition, written on some Medical subject; I, therefore, undertake the task not willingly, because of the incapacity of any Student of Medicine from his necessarily short course of Studies and limited experience to offer anything new, whether by throwing any light, or doing any subject that merited justice, but solely in obedience to duty. Then if I fail in kindly and honestly endeavouring to discharge my duty, I have only to recommend myself to your leniency and indulgence.

The subject I propose to write on after much consideration, is Menstruation, a great function, peculiar only to Females of the human race.

In entering in detail on this grand and interesting subject, a subject which has been so ably treated of, and in so many different ways, I cannot but feel embarrassed in pointing out what course to pursue. How should I be otherwise than puzzled and perplexed, when I refer to authors on this subject and find such a contrariety of opinions and that by men of profound minds and ample experience

It is plain then, that I cannot follow the authority of one; but, shall adopt the drift of modern authority, thinking that every mind theory adds something to the gen-

real Stock of knowledge, as is known that all mid doctrines, though fundamentally erroneous, seldom fail to do some good, by directing the views of Physicians to important circumstances, which were previously overlooked, or too much neglected.

In a healthy female at the age of puberity, the Uterus secretes and ejecteth a certain fluid at certain fixed periods; which fluid is called the catamenia, or menses: and the process known as Menstruation.

Now even this fluid has given rise to a multiplicity of opinions, as to whether it is a secretion, or a mere sanguineous exhalation, and whether it is only blood or differing from it.

What an irksome task would it be for me, were I to attempt to trace

each theory in succession and
show when they differed, and in
what they differed. In obviating
this difficulty I will do as I have
before said; follow the latest au-
thorities or that which seem the
most plausible and rational, at
the same time relying on the mature
and competant judgement of my
Prof. of Obstetrics.

Menstruation is a secretion of the
uterus, and not a mere sanguineous
exhalation as many distinguished
modern Physiologists have chosen
to assert and among them I might
mention Drgis of France and Prof.
Meigs of this country, is a fact
so conclusive and so much the more
rational when we come to take into
consideration all the theories extant
on the subject as to require no
process of reasoning to establish it.

But the reason why this ~~process~~
secretion happens at certain fixed

and definite periods, and not continuous, is, in our present state of knowledge no more explicable than is the reason why Females of the human race have this function instead of the Females of other species.

Though hen speculation has been busy; suffice it to say, many ingenious theories have been promulgated to account for this Phenomenon, but their arguments were nothing more than gratuitous assertions, then of course their conclusions could be no other than erroneous and irrelevant; thereby proving nought but waste of words and loss of time.

That this process is designed to effect a certain specific object, and this object to prepare the uterus for impregnation and conception is obvious from the fact that all irregularities of this function are impediments, nay, more almost

impossibilities to conception;
though there are instances on record where impregnation has taken place previous to Menstruation, such a case is mentioned by Churchill: other cases as related by Velpeau and others in which the Menses never occured till after impregnation: again Dewees together with many others, speak of some who only menstruated during pregnancy; and lastly it is no uncommon occurrence for women to conceive during lactation. Now from the above cases it would seem that this process is not altogether essential to conception, but we know this much, that the healthy performance of this function is in some way or other connected with the proper capacity for impregnation.

Then the above cases may only be deviations from a great general law of nature, which in truth they

ace. The occurrence of menstruation denotes the period of puberity, at which the girl becomes a woman and capable of conceiving; this generally happening between the ages of thirteen and sixteen, though subject to modifications from peculiarities of constitution, habits of life, pursuits, climate &c. whether very warm or very cold, may accelerate or retard the period as the case may be.

There are many instances on record where menstruation has taken place at an extremely early age. Ex. gr. a case is related by Dr. Hall, in the second volume of the Medico. Chir. Trans. of a child that menstruated at nine months of age and continued to do so regularly ever afterwards. And vice versa there are many that pass over the usual period by five or six years, then commence and continue to do so with regularity.

A woman is said to be regular

When this discharge happens at the usual time – in the usual quantity and the usual quality. The usual time I have just spoken of: the usual quantity of fluid discharged at each successive period of Menstruation, is from four to six ounces: but perchance this may vary, for we may have a greater or less quantity and still the discharge be normal.

As regards the last condition to wit – quality, it ought not to vary, but what it consists in is a point now sub judice and is being warmly agitated, some and by far the greater number contend that it is destitute of fibrine, whilst on the other side they say it possesses all the properties of blood, differing in nothing essential from true arterial blood. Be this as it may, I am disposed to believe not from practical observation, but from observing the experience of

others and from the fact of its being a secretion that it does differ essentially from true arterial blood.

After Menstruation is established it continues in activity at regular periods and then ceases, thereby terminating the prolific period of Female life. The term of its existance in activity is said to be about thirty years, depending however on the time from whence it began: and the cessation of this period called the critical period, or the turn of life, varying from forty five to fifty years.

After which time the woman is said to remain in "Statu quo". incapable of conceiving.

The Ovaries have been said to be the essential organs of generation, and as such none will pretend to doubt. Then, however, so essential they may be to the process of generation, they are nevertheless, no

less indispensable to this great and peculiar function — Menstruation.

The ovaries are small organs, the "analagous" of the testes in the male, and up to the time of Steno were called "testes Muliris". They are situated on either side of the Uterus to which they are attached by the broad Ligaments.

The great necessity of the presence of the ovaries is known to mankind generally, for if a Farmer does not wish his Sows to have pigs he extricates their ovaries, which they call Spaying, after which time there is no danger of their breeding. So it is with woman if she from some cause or other loses her ovaries which is not unfrequently the case by disease she remains sterile to the end of her life; this then is proof positive of the indispensible neces-

sity of the presence of the Ovaries.

For the same reason and from the same cause it is positively proven that unless the ovaries are fully developed and free from all disease, the process of Menstruation will not go on.

This great and united relation-ship, I think, accounts for another great coincidence to wit: the final end of menstruation, which is a preparation for conception.

The Symptoms, which precede and accompany the first Menstruation, are very slight in some cases, but well marked in others.

There is commonly a degree of general lassitude and malaise, dark shade under the eyes, headache, pain in the back, weight and aching pain in the Pelvis and down the thighs, more or less derangement

of appetite, and at times manifesting a disposition to eat insipid things &c. There is also not unfrequently a smart fever attending difficult Menstruation.

As soon however as Menstruation is established, all the symptoms I have just mentioned, disappear, mostly leaving the Female in a state of weakness and pallor of countinance.

The colour of the discharge at first is usually pale, becoming of a deeper hue at each successive period till it acquires its normal colour; during its flow the appetite is diminished and often capricious, sympathetic pains frequently felt in the breast. There are some cases on record of women, whose breasts secreted milk at each menstrual period; the skin also exhales a peculiar odour, but not at all disagreeable, at any rate we do not hold menstrual women in that degree

of utter abhorrence that the Jews were wont to do in olden times ~~simply~~ simply, I suppose of their greater cleanliness.

This period does not effect all alike, for as I have said before, some women suffer very much more than others, and the first menstruation is by no means a type of the subsequent periods; those who from a variety of causes menstruate irregularly of course perform this function with more or less suffering; whereas those that menstruate most regularly and naturally have the least suffering.

The establishment of this function effects both the body and mind of a young girl wonderfully.— Her figure becomes larger, rounder, and more fully formed— her Mammae swell and become more largely developed; her pelvis expanded.— in effect her whole contour, her whole general bearing is changed from that of a child

to that of a graceful and dignified woman.

Her mind is no less remarkable for its change: all her childish pursuits, childish notions, whims, and girllike actions are sacrificed to nobler and more womanly attributes, veiled by a delicate modesty, while the changes are sudden and rapid, occuring at this particular period, doubtless fitting her for the more perfect fulfilment of the great and important duties about to devolve upon her.

Menstruation has been divided into two causes viz. Efficient and final; As to the first of these speculation has been rife, much time has been lost, words upon words have been uttered, arguments upon arguments have been urged, but to no purpose: Some ascribing it to local and general plethora, some to lunar influences. From this it is evident that the data to start from is wanting, then of course

as the starting point is unestablished the conclusions, however, so wild they may be conducted, can be no other than false and hypothetical. That for the periodicity of the Menses is something which cannot be accounted for, but comes under my first position one of the peculiarities of the human female remaining to be observed over and over again, but here we must be contented with the broad fact, since farther we cannot go.

As to the changes the uterus undergoes during Menstruation, it is not my design to describe, but simply to note the different offices of this function.

Concerning the final cause of Menstruation very little is positively known, but as we shall see speculation is more plausible on this point than on any other, though far from being satisfactory. The theory I am about to give is based upon the

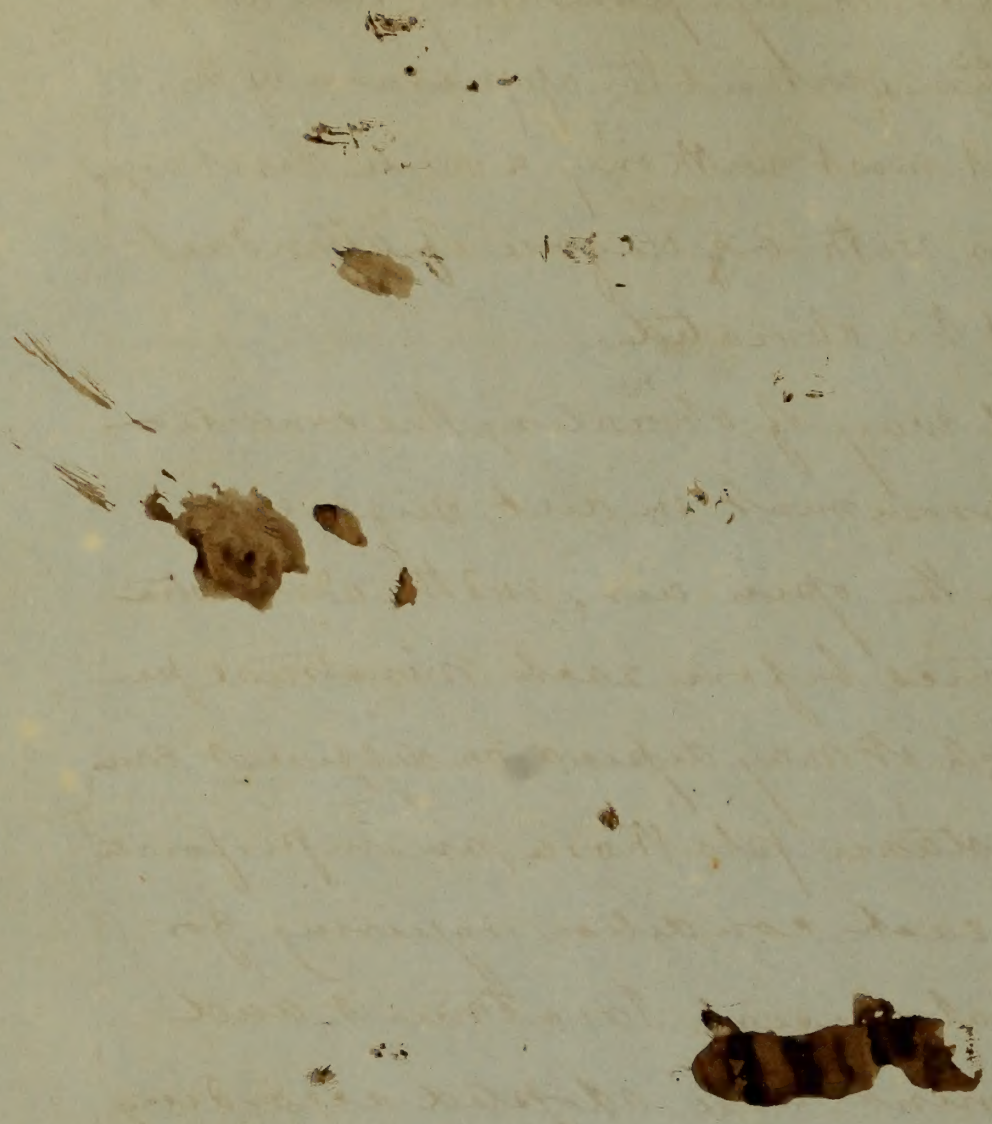
observation

That conception as a general rule never takes place prior to menstruation or puberity: That it does not take place in those who do not menstruate or after the cessation of this function. It has been said that conception often takes place immediately after menstruation, though it may naturally take place at any time during the Menstrual period after the menses are once established. But it has been said that each Menstrual flow results in a ruptured of a "Graafian vesicle", the same thing happens when conception takes place.
From this it would seem that this function is essentially a preparation for conception and in the event of conception not taken place — the Catamenia flow. If then Menstruation be a preparation for conception, and by conception not taken place the menses flow with the rupture of a Graafian vesicle as if conception had taken place; I think then there

can be no doubt but that conception may take place oftener just before the menses flow. Women who have had connection, generally say they are pregnant as soon as their menses cease provided they have been regular heretofore. And as a general rule conception supersedes Menstruation though there are exceptions. The general health of the individual depends often on the normal or abnormal condition of this function. The abnormal condition may give rise to a great many diseases and an immense degree of suffering, but it is not my design to speak of all these deviations. To speak of them all in detail would necessarily require more time than I have to spare, then I shall content myself with noticing only the normal (variety) condition. Even the last named condition may occasionally give rise to a degree of suffering & sickness, which we may be called on to relieve or palliate - if ever we should, we ought certainly be able to give prompt relief. The time that our skill is usually needed is about the first menstrual period. For as I have

Upon stated, the symptoms may come and go two or three times without the appearance of the menses, or at most with only a white discharge. This together with a degree of attendant pain must be obviated.

The usual way of obviating this condition is an improvement in diet, sufficient exercise in the open air, and the administration of tonics before each menstrual period, though it may depend on different causes, for instance plethora, an imperforate Hymen &c. each condition requiring for its removal special treatment and the treatment to be adopted according as the indication differs.



An

Inaugural Dissertation

On

Indigestion, Submitted

To The

Examination of the Provost

Regents and Faculty of Physic

of the

University of Maryland -

for the

Degree of Doctor of Medicine

by

Sidney Sappington

of

Maryland. Anno Domini 1848.

The disease I have selected for the subject of my remarks, is one of very frequent occurence, and one too, which causes an immense amount of suffering and disquietude. So much that it is said, the habitual dyspeptic is truly miserable; and he alone can describe their feelings who has experienced them.

This disease is principally to be met with, in those who devote much time to study, or who lead very sedentary, irregular or intemperate lives, yet it frequently prevails among the most active, stirring and industrious of the community.

The symptoms that characterize this disease are various in different cases at different periods of its progress, and according to the degree of irritation present. In the first place there is generally an uneasiness in the Epigastrium

which is usually diffused over the Epigastric region, and often extends to the hypochondria. Chest especially on the left side, to the Shoulder and down the arms. There is a feeling of burning gnawing pain caused by the vascular irritation of the stomach.

The appetite in this disease is usually variable at times great and sometimes entirely wanting, constituting that malady termed anorexia, then again it is ravenous or perverted. The subjects laboring under this disease are troubled with colic pains, flatulency, acid eructation, and the mind at times is depressed and gloomy. The colic pains are most commonly some time after taking food. The body begins to waste and some become much emaciated. They complain of a sense of stricture in the throat.

There are many symptoms situated elsewhere, which are produced by the deranged state of the stomach or an

extended operation of the same cause

Among the number are classed, headache giddiness tinnitus aurium and other sounds; pains in the back, between the shoulders and other parts of the human frame; a sensation of chilliness between the shoulders, and an uneasiness in the throat, which leads to frequent attempts to clear it. There is general malaise; The patients are low-spirited they feel an indifference to exertion, but full of anxiety, imitable and imagine themselves prey of some serious disease. such as tubercular Consumption, affection of the heart or some other internal malady. There is increased action of the heart occuring at irregular intervals, difficulty of breathing and a dry cough which tend to strengthen the melancholy impressions. Their rest is generally annoyed by unpleasant dreams: at times however their sleep is sound- and refreshing. The tongue is somewhat- furred

and then is often a sour disagreeable taste in the mouth. Some hawk frequently and spit up a frothy mucus from the fauces. The bowels are generally constipated, except when Entiritis exists, or bile in immoderate quantity is secreted. The secretion of bile however is usually diminished and in consequence the stools are small in quantity, hard and of a light colour. The feet and hands in some cases are cold, and in others quite the reverse, warm, and even hot particularly at night.

The pulse is usually irregular sometimes slow then again fast; but in some quite natural. The patients are debilitated with sunken stomach and whole pale sallow skin and haggard countenances are marked with the expression of anxiety. Death is not often the immediate consequence of dyspepsia, yet frequently after long suffering, and despondency

the disease, which was merely
functional by its long continuance,
degenerates into organic and death
follows. The principal danger, the
one to be apprehended most, is that
the debilitated condition of the system
may render it incapable of overcoming
other diseases to which it is subject,
and by which it may be attacked
It is maintained by some writers that
functional sympathetic affections of
the liver, lungs &c. having therein
in dyspepsia may become organic
diseases and constitute the chief
source of danger and inconvenience,
but the observations of Dr Wood —
proves that such cases are very rare,
Dyspepsia may cause in persons
predisposed the seeds that remained
quiescent to be brought into action
and Phthisis set up; but consumption
is never the result of dyspepsia.

The causes of dyspepsia are numerous
The most general cause is the united
influence of sedentary habits and
errors in diet. It is well known that
a certain amount of exercise is
necessary to enable the different parts
to perform the special functions
allotted them, and if that exercise
be not taken, the stomach consequently
suffers with the other parts of the body.
While the gastric functions are known
by the kind of life mentioned, the
quantity and quantity of food taken
is scarcely attended to. The
consequence is, that the stomach is
unduly stimulated in order to perform
the duty, nature designed it, viz
to effect the process of chymification
and subsequently falls into a
state of torpor, and finally
dyspepsia is the inevitable result.
Mental Emotions suspends the human
appetite and powers of digestion -

and when these emotions are of long duration and of a depressing character are very often the causes of protracted and unmanageable cases of dyspepsia.

Long grief and despondency seldom fail to weaken the digestive powers, and to bring on confirmed dyspepsia. Diminished secretion of the gastric fluid, all articles of difficult digestion, food taken in immoderate quantity, the habit of eating too fast, a life of intemperance are all frequent causes.

The use of Opium, liquors, tea coffee and all the stimulants of the brain and nervous system, also the sedative narcotics, may all produce this disease.

It is highly important that dyspepsia should be distinguished from chronic gastritis, as a failure in doing so might be productive of the most disastrous consequences. In chronic gastritis the pain on the whole is greater, and the Epigastric,

tenderness more severe and constant
vomiting much more frequent, and
the pulse quicker and more intense
In this affection the tongue is frequently
red with raised papillæ, which
is rarely the case in dyspepsia.
While action and diarrhœa are of
more frequent occurrence. Whenever
the symptoms mentioned denoting chronic
gastritis become manifest there is every
reason to believe that gastritis has
supervened, and the case should be
treated accordingly,
The most important step in the
treatment of this, as truly as in all
other diseases, is to remove the cause
It is of the utmost importance that
particular attention should be paid
to the diet. They should refrain from
all substances difficult of digestion -
and articles, which have a tendency
in any way to excite the disease -
All fruits either fresh or dried, all fat,
salted and smoked (meats) fish, different kinds

of pastry, puds, but in heavy bread puddings
Cakes made either with butter or fat. Soups
are all injurious and consequently not fit
articles of diet for persons labouring under
this unpleasant malady.
Among the articles constituting the diet
suitable for dyspeptics are ranked - Wheat
bread which should be stale and light
also free from acid, crackers made without
shortening, rice, and potatoes cooked so as to
be mealy. The sweet potatoe should be given
when craved by the patient. Black and
dew berries may be allowed - Good pure
milk either boiled or not is an excellent
article of diet - Animal food is undoubtedly
much more digestible than vegetable and
when the disease depends on mere
debility of the digestive organs, and
when the gastric irritation is not consi-
derable, it will very generally be taken
with the decided convenience by dyspeptic
persons. In eating all kinds of meats
care should be taken that the fat and
skin be not eaten.

The meats should be boiled, or roasted
fried being in general very oppressive
to the stomach. Pepper, ~~and~~ horseradish
and mustard should be used with
moderation. The best drink for dyspeptics
is cold water. Stimulating draughts
may sometimes afford relief for the
time, yet if persevered in, will prove
injurious, and at the same time
patients to whom they are administered
are likely to acquire a fondness,
and often become the victims of
their pernicious vice, intemperance.
The subjects of this disease should
exercise, ride on horseback, in some
vehicle on a rough road, travel in
the cars, steam boats or take advan-
tage of some other modes of exercising.
When exercise is taken it should
be accompanied with enjoyment.
They should take their food at
regular periods, and merely sufficient
to sustain the powers of life. They
should not indulge their appetites

by eating too hearty. Dyspepsia
they should eat slowly, and their food
should be well masticated before admitted
into the stomach. They should keep
regular in all their habits, retire and
rise early, pay particular attention
to cleanings, take cold shower baths
if their be not too great debility.
Attention should be directed to the
bowels, in order that the evacuations be
regular, and if not to employ some
mild laxative. Regular alvine evacuations
should be procured by diet if possible,
if not, by the occasional use of gentle
aperients. Some recommend an
Emetic in the commencement of
this disease; but this is seldom
necessary, except when there is some
irritating substance remaining in
the stomach, which should be removed.
Rhubarb and aloes are good
purgatives in this disease and
may be employed with safety
in combination -

Sulphate Zinc is recommended in
this disease, and is said to have
been used with advantage administered
in minute doses; but if its good effects
are not produced in a short time,
it should be discontinued
When vomiting is connected with
acidity of the stomach Aqua Lelcis
is an excellent remedy. Carbonic
acid is an excellent article and
usually very acceptable to the Stomach,
If diarrhea exist and a laxative
effect is to be avoided the
Creta preparata or oyster shell should
be used. None of the Antacids should
be given unless acid be present as
they are calculated to render the
stomach full, and are not
capable of preventing the
formation of acid.
The hepatic secretion demands
vigilant attention. If diminished
in quantity or deranged, it is best
corrected by alterative doses of the

Purgatives should be taken at night so that they may not commence operating until morning.

Magnesia is a good aperient and especially indicated when there exists acidity of the stomach. Laxative injections and suppositories, though sometimes used are not generally so beneficial, as remedies given by the mouth.

Tonics are beneficial, though their employment must be attended with the utmost caution. The best of these are Columbo, Gentian, Quassia, Chamomile and nux vomica bark. In feeble cases Serpentaria is applicable, and Valerian may be used if the nerves are in a disordered state. Among the mineral tonics Carbonate and Sulphate of iron often combined with Carbonate of soda and potassa, also Sulcarbonate of Iron, Tincture Chloride of Iron, and Solution of the Iodide of iron.

mercurial pill or Calomel, either alone
or combined with the tonic and
purgative medicines already mentioned
Indigestion seldom continues long
without involving the liver in functional
disorder and when from the icteroid
state of the eyes and skin, and the
appearance of the stools and urine
there is reason to suspect the existence
of functional disorder, the use of
alterative portions of the blue pill is
decidedly indicated and will generally
afford considerable benefit.
In conclusion the patient should
renounce his former habits, which
tended to give rise to the disease
as a repetition may defeat the
remedies employed. If they lead lives
of indolence and dissipation they should
forsake the houses and haunts of
dissipation, shun luxurious tables and
late hours, rise early and use simple diet,
It is necessary for patients to
retire from the care and anxieties of
harassing business; yet the mind

must not be left without occupation
Innocent amusements, cheerful society
light reading and moderate professional
occupation, exercise a very good influence.
A Current of electricity or galvanism
made to pass through the stomach
is sometimes useful when that
organ is torpid.

Essay

by

J. Thomas Johnson Jun.

An

Inaugural Dissertation

On

# Rheumatic Endocarditis & Pericarditis.

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic

of the

University of Maryland,

for the

Degree of Doctor of Medicine.

By

I. Thomas Johnson Jun.

Fredk Co.

Maryland

# Rheumatic Inflammation of the Heart.

It could be of no use in this essay to descant largely upon the importance of the subject, or indeed to bring forward any arguments to prove that it calls for the undivided attention of the Student of medecine. The fact of the Heart's being the reservoir of the life-sustaining fluid, from whence it flows to every part of the body - the immense danger accruing from disease or disorganization within it or its investing membrane, and many other things of equal importance, all point to the necessity of knowing, as far as possible, all that is revealed concerning its diseases. And now that enough is known to show what more is wanting, each one finds encouragement to endeavor to contribute a mite towards their farther elucidation. - During the last twenty-five or thirty years there has been a bold array of talent engaged in the investigation of this subject. Nor time, nor labor has been spared to explain scientifically every phenomenon, normal or abnormal,

connected with the heart. And this untiring research has not been unavailing, for formerly the diagnosis of a diseased heart was guesswork, now- it is comparatively plain, and this, for the most part, by the aid of auscultation and percussion. Now- the Physician who cannot understand the language of these Sentinels when they speak of an enemy within the fortress, is justly considered culpable. But it is not alone in diagnosis that we witness this great improvement- Pathology too has received a full share of attention, and there are but few points, comparatively speaking, in the nature and laws of disease as it attacks the heart, which are not well understood. In regard to Pathological Anatomy- the Medical man is now enabled to predict with almost perfect confidence the alterations which will be found to have taken place.- But this is not all. Much yet remains to be

done. Skill in the detection of these diseases is certainly attainable - when they are recognised, the cause of each sign may be explained, and the favorable or unfavorable termination of each symptom truly foretold, - finally, we know what the scalpel will unfold after death; but a knowledge of their treatment is by no means in proportion. It may almost be said that this practically most important part has been neglected. Why this is we cannot certainly say. Perhaps it is because speculative study is more interesting than, and incompatible with, practical research. But whatever may be the cause, it is certain that those who have given the most beautifull and also most correct theories of disease, have taught us least practically in regard to treatment.

It is a sad disappointment to the student who applies himself assiduously to the

study of the heart's diseases, when he finds that, having mastered all their theories and made himself fully acquainted with pathology and diagnosis, he can do no more. From the clearness and precision with which they are described he is led to expect that we have much influence over them in a remedial way; but his hopes are vain, for, so far, the increase of knowhas only served to show how imbecile we are. — We would not venture to speak a word disparagingly of those who are devoted to the study of medicine essentially as a science, but we beg leave to suggest that much more is due to one who conjoins with this seeking after new diseases, a search for remedial agents to those with which we are acquainted. When he touches upon things of vital interest —

when he has to do with matters of life and death, he should be guided by higher motives than mere ambition; and his merit will be proportioned to his conscientious pursuit of correct information.

In speaking of diseases, it is necessary to mention the several methods by which they are recognised before the diseases themselves can be treated of - in other words, we must know the signs and symptoms, which, taken altogether, if they do not constitute the disease, yet give it its peculiarities, before we can speak of the effects or treatment.

The principal means we have of recognising diseases of the heart and of determining their degree and exact situation, are the

physical signs - those which refer directly to the diseased organ; and in comparison with these, most other means of diagnosis have lost some of their apparent value. We first speak of those signs appreciable to the sense of hearing - Auscultation and Percussion, which may be included in the first term, for in the practice of either we form our judgement from evidence given by the ear. In one the sounds are immediate, in the other mediate - In auscultation we hear sounds produced within the heart by its own movements - In percussion we listen to those we make ourselves by knocking upon the precordial region of the chest. Certain sounds, made by the contractions of the heart,

may always be heard, and a certain amount of dullness may always be produced by percussion. We know that these sounds may be modified, and this dullness increased, by disease. And then, the practical part of all this, is to learn to distinguish the morbid from the healthy sounds. Another physical sign is the heart's impulse, which we are made aware of by the sense of touch. It is caused by contraction of the ventricles. The impulse in a diseased heart may differ from the natural and healthy thrill to as great a degree as the sounds or resonances. These constitute the most important of the physical signs; for it is hardly necessary to speak here of the knowledge we gain from an insp-

-ction of the denuded chest, and, indeed, it does not afford the same amount of information in diseases of the heart, as in most other thoracic affections. — There has been, and perhaps is yet, some speculation about the sounds which are heard naturally in the heart — their number and their cause; but it may be only necessary to mention what is generally thought the correct explanation, viz.- that there are two sounds- that the first, a dull sound, is caused by the contraction of the ventricles, and the second, sharper and more clicking, is made by the sudden closure of the sigmoid valves, when the blood tends to regurgitate into the ventricles. In regard to each of these, there is a single sound produced by a double cause. For the first sound, both

the ventricles contract, and in the same way, the simultaneous shutting-up of the valves of the Aorta and of the pulmonary Artery, make the second. - The alterations of these sounds from the healthy standard, require a more carefull notice. That these morbid sounds might be more readily recognised, they have been compared by writers upon the subject, to many things which are familiar to the ear; such as the sound of the bellows, of the rasp or file &c. - Dr. Latham, as he says, to avoid confusion calls all these sounds murmurs. And these murmurs he divides into endocardial and exocardial. The endocardial murmur is produced within the heart, and is heard taking the place of the

systolic or the diastolic sound.
The exocardial murmur is produced external to the heart proper, and is entirely independent of its natural sounds; though it may be so loud as to obscure in a great measure these sounds.
It would seem to be a very difficult matter to distinguish between these two murmurs, for they are confidently described as having marked points of difference. The endocardial murmur is always likened to a whiffing, blowing, or bellows sound, while the exocardial is said to resemble more a sound produced by the friction of two rough surfaces.
The endocardial murmur may be said, in a general way, to be caused by the vibration of the blood in the heart; and this vibration may arise

from any obstruction to the current of the blood, - as, an adventitious growth within the heart - a narrowed orifice, or, finally, from the regurgitation of the blood through an imperfectly closed valve. This latter, - disease of the valves, more frequently gives rise to the endocardial murmur than any other cause. And although this sound is very dissimilar in different hearts, scarcely two being found which produce it with the same distinctness or force, we are not deterred from referring it most generally to valvular disease; for the minute differences may be readily accounted for by the variations in size and shape of the orifice through which the blood is passing. But the endocardial murmur may

occasionally have some other cause than this particular affection, and therefore it cannot be perfectly diagnostic. Cases are recorded in which this sound was found congenital. It may be caused by mechanical impediment as in deformity of the chest, or, temporarily, by pressure upon the walls of that cavity.

All that can be said of the pericardial murmur, here, is, that it is without the heart - independent of of the sounds of the heart - that it results from the rubbing together of the roughened pericardial surfaces - and that whenever we recognise it we may be sure that something is wrong, for the pericardium in a healthy condition, makes no sound in its gliding motions appreciable to the ear.

Rheumatism was long known to the Profession, as a disease of the joints and muscles, and as such, successfully treated, before it was suspected that the heart might also be its seat. And this has been accounted for by ignorance in regard to the physical signs. Actual statistics prove now that nearly one half the cases of acute rheumatism have some accompanying disease in the heart; and it may be justly concluded that this was always so; but in many - perhaps most instances, the heart is so slightly affected, and so obscurely, that only the discrimination of an auscultator can discover it. The fact was first known to Dr. Pitcairn in 1778; at least, this is the first mention of it on record.

This was not published until 1794, when Dr. Baillie noticed it in his "Morbid Anatomy". Some years elapsed ere this came to be generally believed, and for a very obvious reason, viz, that the principal means of discovering slight and even severe affections of the heart was not well known. Auscultation at that time was by no means practised universally as it now is. But at the present time there can be no doubt of the frequent connection of these two diseases, rheumatism and inflammation of the heart. The statistical tables, which we spoke of before, proving that disease of the heart was present in one half the cases of acute rheumatism, have been collected with much care; and many of them

directly from pathological research.
It was once thought that
rheumatism never attacks the
heart primarily, but that it was
by a metastasis from the joints.
But this is proved now to be incorrect.
For the first proposition, - Dr. Hope
says that he has seen cases in
which the heart was evidently
affected, before the disease made
its appearance anywhere else. And
as regards the metastasis - if that term
is used to mean a total desertion of
one part for another - the idea is
erroneous; for we may frequently see
the disease attacking the heart, whilst
it is raging with the same intensity
in some other part. The notion now
generally prevailing is that there is an
extension of the disease; an extension
to the fibrous tissue of the heart, just
as the inflammation extends from

one joint to another.

When the rheumatism has reached the inside of the heart and there induced an Endocarditis, what means have we of knowing its presence with certainty? The endocardial murmur is the only sign which could be called diagnostic, and we have seen that it is not purely so. The general symptoms, and those of which the patient can give evidence; such as febrile disturbance, pain, anguish, throbbing, a sense of weight and oppression, are all of importance, and each by itself will give some information. The pain may be present before the murmur, it may follow it, and perhaps in most cases, it may be entirely wanting. And this, because the patient so frequently does not complain, is one reason

why the disease is so often over-looked. Pain, when it does appear, is usually proportioned to the severity of the inflammation.

Excess of impulse in the heart may often be felt, when no murmur is heard, but most frequently they are contemporaries. The intermittent or irregular action of the heart, commonly makes its appearance after the throbbing, but they disappear together. These symptoms, and others of a like nature, tell of the severity of the disease, and to what extent disorganization has taken place; but it is the murmur which shows where these symptoms are to be referred, and thus points to the exact situation of the disease. It was said that this is the surest sign of Endo-carditis, but we cannot always

look for the disease when we hear the murmur; nor do we always find the murmur when we may have other strong grounds for supposing the disease present.

When, in an attack of acute rheumatism symptoms referable to the heart are discovered, but unaccompanied by the murmur, - even though this great sign be wanting, at first, - yet the duty of a Physician is clearly defined. For knowing the grave prognosis of a severe inflammation of the heart, and the rapidity with which it runs its course, the most obscure indications of its presence, become also indications of vigorous treatment. In such cases as these the endocardial murmur may make its appearance while the disease

is progressing, in any of its stages. When it is not heard until the inflammation is resolved, it then indicates that there is permanent injury done to the organ. — So that, in all cases should more than a due degree of importance be attached to this sign, it is liable to mislead. (We postpone speaking of the treatment of this disease until Pericarditis is described; for it is nearly the same for both.) — The pericardium — the investing membrane of the heart, is analogous to the pleura of the lungs; and, like it, is liable to take on inflammation. And like pleurisy, inflammation of the pericardium is recognised by certain physical signs. The Endo-cardial murmur was said to be the principal sign of Endocarditis,

And we will find that the Exocardial, in the same way, is the chief sign of Pericarditis. Only, the former is not infallible, while the latter is perfectly diagnostic. Whenever it is heard and clearly made out, it is safe to conclude that the Pericardium is diseased. But there are other sounds, not less pathognomonic of this disease than the murmur; their usefulness, however, is limited, because of the difficulty of recognising them - because of the irregularity of their appearance, being present and absent in the same heart in the same hour, and they are usually merged at last in the Exocardial murmur. These sounds are as accurately described by different writers as is possible, but they cannot be learned without listening at the chest; and the student rarely

recognises them, when first heard, from the descriptions he has read. — Generally, as soon as the friction sound is heard, another physical sign of much importance makes its appearance, viz. dullness on percussion. This is dependent on the known product of inflammation of serous membranes — effusion of serum. This liquid, not being able to compress the heart, distends the pericardium; and thus the dullness is heard over a much larger space than the heart naturally occupies. Commonly, but not invariably, effusion of serum is accompanied by vibrations and undulations. The vibration or thrilling motion may often be felt when the undulation cannot be seen; but the latter is never visible without the former is present.

Before there was much knowledge of physical signs, diseases of the heart

were diagnosed principally from the general symptoms and from a knowledge of those constitutions in which they were most liable to occur, and of the circumstances most frequently accompanying them. But many cases are met with in which the general symptoms are not developed so as to direct the Physician to a timely treatment of the inflammation, or to arrest its progress. Here are witnessed the benefits accruing from the physical signs. But perhaps it is necessary to make some qualifying remarks in regard to the usefulness of auscultation, in particular, in determining the nature and seat of disease - since all authors agree concerning the difficulties in the way of obtaining a correct knowledge of its various signs and imports. In any

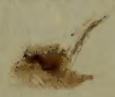
of the sounds are distinguished, for the benefit of the student, by appropriate names — that is, those sounds in which the difference is sufficiently marked to allow of their recieving seperate names; but there are minute points of differences and shades of variation which to one inexperienced are extremely harassing. And moreover two or three of these sounds are liable to become so blended as to render it difficult to determine which is the predominant one. A strong proof of the difficulty of the subject is that there are comparatively so few skilfull auscultators.

The treatment of Rheumatic inflammation of the Heart resolves itself into two divisions. the preventitive and the curative measures. Knowing how frequently the external

and evident disease - rheumatism of the joints, is accompanied or followed by the internal and hidden affection - rheumatism of the heart, it is necessary to be, and in a great measure we may be on the look-out for it. The rheumatic patient should be examined from day to day, that the slightest symptom may be detected; and even if there is no sign directly reperable to the heart, and yet the rheumatism has a tendency to shift and change its place - at each change coming nearer to the heart, - then, those remedies which we have been using to cure the rheumatism, are to be applied more vigorously to prevent the hearts affection. An enumeration of these remedies is hardly necessary. — In the actual treatment, it is a matter of discussion whether mercury or bloodletting should be

accounted of most value. Perhaps the predominance of opinion is in favor of the latter. All, however, agree, that taken together they constitute the most important remedies. Bloodletting should be freely practised, but there are good reasons why it should not be used indiscriminately. It is the sedative influence, which is wanted, upon the heart and circulation, and it would be absurd to carry it so far as to defeat this object by bringing on excessive reaction. - Again, if there be any danger of permanent injury, the consecutive excitement of the heart produced by too great an abstraction of blood, increases the risk. - There are no rules, of course, laid down in regard to the amount to be taken - it must be proportioned to "the exigencies of the case". In a general way, from twelve to twenty four ounces may be taken at first, and if the patient is robust and in full health, this may be repeated when requisite. Cupping or Leeching over the praecordia is practised to assist venesection. — The use of Mercury is

for its specific effect upon the system. The rapidity with which ptyalism should be induced, necessarily depends upon the progress and severity of the inflammation. When given internally Calomel is most frequently employed. To prevent its purging, and passing rapidly out of the system; it is combined with Opium. But this is not the only object in the employment of Opium. The heart being perpetually in motion is, in a diseased state, a constant source of irritation to itself, and anything which tends to decrease the number and force of its contractions, without doing harm elsewhere, becomes an important remedy; this, opium does. These three agents, Bleeding, Mercury and Opium constitute the active treatment —. As adjuvants to the general antiphlogistic means, purgatives should be freely used. They do not exert any specific influence on the disease, but by keeping up a drain upon the system, assist in removing the materials of inflammation. —



In the third stage the sign are similar to those of the second. We cannot easily trace its passage from the second to the third stage, when the lung begins to soften a coarse mucous rattle is heard, the expectoration is very copious, loose and grumous. If a Pneumonic abscess is formed we may hear cavernous respiration Sometimes after the disease has attained the second it never goes further but gradually returns again to a healthy condition, the same symptoms occur again, but in a reversed order Pneumonia never leaves any permanent contraction of the chest but sometimes the Physical sign remain a long time after the patient appear to be well

Pneumonia is essentially, an acute disease and as it is the most acute affection of the chest so it is the most grave

The mortality is modified by various circumstances; as, the age of the patient, the previous state of his previous health, constitution hygienic means, time at which the patient is seen &c the extent of the inflammation &c

## Diagnosis

The pathognomic signs of Pneumonia are the peculiar rusty sputa, the fine, dry crepitation in the first stage with subsequent dulness on percussion and blowing or bronchial respiration, together with great resonance of voice and vocal fremitus

There are only two diseases with which it is likely to be confounded; these are Bronchitis and Pleurisy. From Pleurisy it may be distinguished from the fever being greater from the commencement from the presence of the crepitant rattle in Pneumonia, and, its absence in Pleurisy; in the former we have rusty sputa, in the latter it is only catarrhal; in the one, when we have dulness on percussion, we have blowing respiration, in the other, we have not this respiration

In Pneumonia there is increased vocal thrill; Pleurisy it is absent; and finally there is Bronchophony in Pneumonia, and in Pleurisy Aegophony

In Bronchitis the pulse is smaller, the pain duller, more of a feeling of soreness, than in

Pneumonia; the crepitation is dry and limited, in Pneumonia whereas in Bronchitis it is moist and more diffused over the chest and there is but little or no dulness on percupion in Bronchitis and no blowing respiration

## Treatment

Inflammation in so delicate an organ, and one so essential to life as the lungs, requires the most prompt and active treatment and no disease is more under the control of remedial agency, if it is properly and timely practiced, than frank, idiopathic Pneumonia

The basis of the treatment is the antiphlogistic plan, of this bleeding is the principle "the steel Anchor" and this is useful just in proportion as it is early practiced

By it we subdue the inflammation, lessen the activity of the circulation, and relieve the pain and dyspnea by dimenishing the quantity of blood, and disengorging the lung of its congestion. If the the patient is seen in the early

stage ~~of the Disease~~ before red hepatization has taken place the disease may be strangled and cut short at once by a decided bleeding; and to effect this the patient should be in an erect position, a large orifice made, and the blood suffered to flow till a decided impression is made on the system, but never to syncope

If the second stage is fully established we cannot expect to cut it short by bleeding, yet it does good by relieving the dyspnea and promoting resorption of the effused lymph and modifies it through its whole course

The bleeding should be repeated according to circumstances, if the pain and dyspnea continue or if there is still crepitation or rusty sputa with fever, the bleeding should be repeated again and again if these symptoms continue or return, as long as the patient is able to bear it. Local bleeding though, not so beneficial, is a valuable adjuvant means particularly in children and in other cases in which general bleeding has been carried as far as prudent

The bleeding should be aided by some other means; the first and best of these is Tartar Emetic in large and tolerant doses, as a contrastimulant, It should be given in doses of one, two or three grains or more, in combination with Opium to prevent its producing vomiting or purging, every two or three hours

It should be continued according to the effects it produces; if the dyspnea decreases, the surface becomes cool and moist the pulse, softer and less frequent and the expectoration easier, we may be sure that it is producing a beneficial effect, but if on the contrary the face becomes pale the surface covered over with a cold clammy sweat we should not hesitate to withdraw the use of the medicine In the latter stages the Tartar Emetic may be combined with Iodine or Mercury to promote resorbtion of the effused fluid

Another plan of treatment is the use of Mercury, and it is very often necessary to resort to this plan when tartar emetic is contraindicated

either by the presence of gastritis or when it debilitates the patient too much, or when the inflammation has reached the second stage and lymph has been effused Mercury is more useful and, probably, more to be depended on, than tartar emetic The object of giving it is, to slightly touch the gums; to effect this it should be administered in small doses in combination with Opium, repeated at short intervels

After the inflammatory symptoms have subsided, and the pain and dyspnea continue, the expectoration still difficult, with a sensation of tightness or oppression in the chest, a large blister over the chest often produces great relief

The bowels should be gently opened with mild evacuation medicines if they are constipated but purgatives should not be employed as they would interfere with, and prevent the the speedy effects of the other remedies

The Antiphlogistic regimen should be strictly adhered to, all stimulating food and drinks must be avoided, the diet of the lightest farinaceous kind

the patient kept in a quiet and comfortable condition, free from exposure and cold &c
As one attack of this disease predisposes to another the patient should use every precaution to prevent its recurrence; he should avoid, as far as possible, all exposure to cold, keep himself warmly clothed, use gentle exercise but never fatigue himself, and use the cold bath

# Acute Pneumonia.

By the term Acute Pneumonia we mean an inflammation of the parenchymatous Tissue of the lungs, or of the substance of the lungs themselves. This inflammation may occupy a portion of a lobe, a whole lobe contenuously, or even a whole lung; constituting Lobar Pneumonia; or, it may attack isolated portions or seperate lobules, leaving intervening lobules free and healthy; forming Lobular Pneumonia. This latter form is almost exclusively confined to Children, whereas the former is most usually found in adults

Sometimes, though this is comparatively rare, both lungs are affected at the same time

As it is from a knowledge of the Anatomical Lesions in Pneumonia, that we are enabled to appreciate many of the most important symptoms; I will first describe these as they appear in the different stages of the disease

There are three conditions of the lung which correspond to the different degrees and peri-

=ods of its inflammation, and which are generally well marked and very constant

The first stage is that of engorgement or congestion; the second, that of red hepatization and the third, grey hepatization or purulent infiltration

In the first stage, the lung is of a deep red colour, and infiltrated with reddish, bloody serum which is very frothy, it is no longer filled with air, heavier than natural, scarcely crepitating at all, and of diminished consistance, the lung is still permeable to air but the vesicles are diminished in size and if cut across a copious, turbid, bloody liquid flows out

In the second stage the lung is entirely solidified it is impermeable to air, the little vesicels are completely closed up, the lung resembles the liver; it is of a brick-red colour; it is more friable, more rotten than in the 1st stage and will not crepitate on pressure, it also sinks very rapidly in water. If the lung is cut no blood escapes

=ed of it in/dow no otter, and which are generally
well amerkat and very cm stand

The first step in that of engagement or con-
tern; the second, that of real delegations and
the third, speed delighting, a/an when I/at-
tentions

on the first step, the lung is of a deep red col-
our, and in/flamed with reddish, bloody
serum which is very frothy. It is the lap
filled with air, however then natural spaces
are/pinkers called, and of dimensions con-
siderable, the lung is still permeable to air
but the vesicles are diminished in size
and it will sink a graft a/down, tenacious bloody
liquid flows out

In the second stage the lung is entirely co-
loured/pink it is impermeable to air, the ve-
sicles are completely closed up, the
lung resembles the liver, it is of a brighter
colour; it is more friable, more yellow
than in the 1st stage and will not crepitate
on pressure, it rather emits more/less of
water. If the lung is cut in three pieces

from it, if it contains any liquid it is thick and black like tar, the torn surface is covered over with little granulations and when the chest is opened the lung does not collapse
The lung is still granular and heavy in the third stage but the red colour is displaced by an opake yellow matter which depends upon little points of pus and when the lung is cut the pus oozes from these little points
The lung is more friable more easily broken down than in the 2nd stage, it is softer and sometimes so rotten as to be broken up with the slightest pressure
Tubercular abcesses are sometimes formed in this stage but this is said to be exceedingly rare

## Causes

Pneumonia is more frequent in the right than in the left side and this difference obtains at all ages of life and is probably owing to the greater capacity of the right lung. The

lower lobes are also more frequently affected than the upper, this may be owing to their position, being always most dependant they seem more disposed to inflammation. This disease occurs at all ages but it seems to be more common in infancy and in adult life. Men are more liable to it than women, from being more exposed It is most frequent in fall, winter, and spring, but particularly, at the breaking up of winter. Exposure to cold, fatigue, want of proper clothing, misery &c are all predisposing causes. It is very often excited by tubercles in the lungs, Bronchitis & Pleurisy &c and accompanies by many of the Exanthematous fevers as Measles, Scarlatina small pox, and Typhoid fever

The most frequent exciting cause is exposure to cold it may also be excited by great exertion of the voice, by blows on the chest, wounds of the lungs, inhalations of irritating substances, indulgence in Alcoholic liquors &c It seems sometimes also to be Epidemic

## Symptoms

Pneumonia is sometimes preceded by the usual symptoms of catarrh, at others it has various prodromic symptoms; as uneasiness in the side, some degree of lassitude, loss of appetite some horripulation, general soreness, great sensibility to cold, and some febrile movement It generally sets in with a pretty decided chill, headache, some degree of nausea, sometimes vomiting, pain in some part of the chest, oppressed cough with a peculiar expectoration

The pain is usually felt below the mamma and to the out side of it, sometimes below the clavicle or in the hypochondriums, at first it is acute and lancinating but in a day or two it becomes dull and oppressive; it is increased by cough, by a deep inspiration or by pressure There is tenderness over the seat of pain, sometimes. However, there is no pain at all and the amount of this lancinating pain, usually, depends on the extent of the accompaning Pleurisy which is almost always present in a greater or less degree

The respiration is hurried and laborious, the breathing is high; the respiration sometimes becomes exceedingly great, rising to 30 or even 50 in a minute this dyspnea is very much influence by the extent and situation of the inflammation being much greater when the upper lobes are affected than when the lower ones are. There is a feeling of oppression or constriction in the chest, the face is flushed and red, but if the dyspnea is very great the face becomes livid or bluish with a livid purplish spot on the cheek showing the want of due decarbonization of the blood

Cough is, almost, always present but it is usually slight, it sometimes consists only, in frequent short efforts to cough; there is no exacerbation of cough at night.

For the first twenty four hours this cough is dry but after this it is accompanied with a peculiar expectoration which is pathognomic of Pneumonia, this expectoration is of a tawny, rusty, or brickdust colour, it blends itself into one mass and is so viscid that it will not be detached from the vessel when it

is inverted This colour depends on a minute mixture of blood with the sputa and resembles a solution of gum arabic mixed with a little blood: this sputa occur in the stage of red hepatization; when the disease is passing from the 2nd to the 3rd stage it becomes even darker than this; it looks like prune juice or liquorice, depending on the occurrance of suppuration In a few cases this expectoration is said to be altogether wanting but when it appears it is always a pathognomic symptom
Fever always accompanies this disease and is generally in proportion to the extent of the inflammation, the pulse is frequent, strong, and hard; sometimes it becomes very small and compressible; a small, frequent and compressible pulse is a very grave symptome, and shows that the inflammation is very extensive
The skin is hot, sometimes hot and dry, at others hot, moist, and halitious; the appetite is lost, the tongue moist and covered over with a white frosty fur, there is considerable thirst, the bowels

are usually but little affected, headache sometimes very violent and lasts for several days. The Strength of the patient is greatly depressed, he generally lies on his back, if he lies on either side it is generally on the diseased one. the blood, when drawn, is buffy and cupped

In some cases the function of the liver is altered it secretes more bile than usual and the tongue, eyes and surface be come tinged with yellow; in these cases, the lower lobe of the right lung is almost always the seat of disease

## Physical Signs

By these signs we are not only enabled to detect the presence of Pneumonia, but we can ascertain its extent, every step of its progress, and how to direct our mode of treatment

In the early stage percussion teaches us but little there is comparative dulness, particularly if a large portion of the lung is congested but when the ear or Stethiscope is applied over the part affected, a fine, dry crepitant rattle is heard this sound is only heard at the close of inspiration

and is much more audible if the patient is made to take a deep inspiration It is produced by the sudden expansion of the walls of the little vesicles, during inspiration, which had become adherent by the viscid matter contained in them

This fine, dry crepitation is heard in no other disease of the chest and is a perfect pathognomic sign of Pneumonia, both of its presence & stage; it may be heard, at first, over a very small surface together with the respiratory murmur but in a short time it entirely masks it and becomes more diffused over the chest as the inflammation extends

The sound of the second stage shortly become mixed with that of the first and after the disease has continued for twelve or Twenty four, or longer, it passes into the stage of Red hepatization

The pulmonary vesicles are now completely closed up so that no air can enter them, we consequently, hear no vesicular murmur or crepitation but a blowing, tuber or bronchial sound is heard and heard, both in inspiration and expiration

The expiration is prolonged, this prolonged expiration sometimes even exceeds, in length, the inspiration. just at the roots of the lungs, this bronchial respiration is heard in the greatest degree, it is extremely dry and harsh; we may sometimes, hear a little crepitation mixed up with it

The resonance of the voice is greatly increased it is conveyed through the condensed lung, to the ear placed over the diseased part, with as much force as if it was placed over the Trachea, we have Bronchophony and if the hand is placed over the chest we find the vocal fremitus greatly increased

While these changes are taking place in the diseased lung, the sound one having a double duty to perform, the sound in it is abnormally clear, it becomes puerile

If we percuss the chest in this stage we hear dulness over the whole of the affected part there still remains a certain degree of elasticity of the ribs but the sound is dull and flat this sound entirely limits the extent of the inflammation

End